INTERNATIONAL AND REGIONAL TRADE LAW: THE LAW OF THE WORLD TRADE ORGANIZATION

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Unit I: The Syntax and Grammar of International Trade Law

Case Law: *US–Section 301*

United States – Sections 301-310 of the Trade Act of 1974

Editors' Note: This case interests us since it explicitly raises the question as to the overall objectives of the WTO. It involves an alleged conflict between United States statutes on trade remedies and the Dispute Settlement Understanding ("DSU") – part of the interlocking Agreements comprising the WTO, which lays out rules and procedures governing the settlement of trade disputes. When you read this report you should ask yourself why the panel engaged in an examination of the overall objectives of the WTO.

Summary of facts

Excerpt from Dispute Settlement Commentary of Section 301 on the subscriber page of www.worldtradelaw.net.

This dispute concerns U.S. legislation that authorizes certain actions by the United States Trade Representative ("USTR") in response to trade barriers imposed by other countries. While this legislation is known commonly as "Section 301," the entire measure at issue actually spans Sections 301-310 of the Trade Act of 1974 (codified at 19 U.S.C. §2411 *et seq*.).

The operation of the Section 301 provisions is as follows. First, Section 302 authorizes the USTR to initiate investigations of acts, policies or practices of other countries that are "unreasonable or discriminatory" and burden or restrict U.S. commerce. It also requires the USTR to request consultations with the country concerned. Section 303 then requires that if no mutually acceptable resolution is reached within a certain time period, the USTR must request proceedings under the formal dispute settlement procedures of the trade agreement at issue.

In turn, Section 304(a) requires that the USTR make a determination under the trade agreement at issue as to whether U.S. rights are being denied on or before the earlier of "(i) the date that is 30 days after the date on which the dispute settlement procedure is concluded, or (ii) the date that is 18 months after the date on which the investigation is initiated." Moreover, it requires that if the USTR's determination is affirmative (*i.e.*, if the USTR determines that U.S. rights are being denied), the USTR must, at the same time, determine what action it will take under Section 301, which authorizes the USTR to take remedial action, including the suspension or withdrawal of concessions or the imposition of duties or other import restrictions. However, with regard to investigations involving alleged violations of the WTO Agreement, the following rules apply. If the DSB adopts rulings favorable to the United States on a measure that was originally investigated under these Section 301 provisions, then, under Section 304(a), where the responding Member agrees to implement the DSB's ruling within a reasonable time, the USTR can determine that U.S. rights are being denied, but that "satisfactory measures" are being taken that justify the termination of the Section 301 investigation.

Section 306(a) then requires the USTR to "monitor" the implementation of measures undertaken by a foreign government to provide a satisfactory resolution of a matter subject to dispute settlement. Under Section 306(b), if, on the basis of that monitoring, the USTR "considers" that a foreign country is not satisfactorily implementing the measure undertaken to reach a satisfactory resolution, then the USTR is required to reach a determination under Section 304(a) as to what

further action it will take under Section 301(a). In this situation, Section 305(a)(1) requires that, subject to the specific direction by the President of the United States, the USTR must implement the action it determines necessary under Section 304(a) "by no later than … 30 days after the date on which such determination is made." Section 305(a)(2)(A), however, permits the USTR to delay, by no more than 180 days, any action under Section 301 if the USTR determines "that substantial progress is being made, or that a delay is necessary or desirable to obtain U.S. rights or satisfactory solution with respect to the acts, policies, or practices that are the subject of the action." (Paras. 2.1-2.20)

The European Communities argued that Sections 304(a)(2)(A) and 306(b) are inconsistent with DSU Article 23.2(a), and that Sections 306(b) and 305(a) are inconsistent with DSU Article 23.2(c). Moreover, it claimed that Section 306(b) violates GATT Articles I, II, III, VIII and XI.

Panel Report, WT/DS152/R, 22 December 1999
Panel: Hawes, Johannessen, Weiler

http://www.wto.org/english/tratop_e/dispu_e/cases_e/ds152_e.htm

(…)

VII. Findings

(…)

(a) The dual nature of obligations under Article 23 of the DSU

7.35. Article 23 of the DSU deals, as its title indicates, with the "Strengthening of the Multilateral System". Its overall design is to prevent WTO Members from unilaterally resolving their disputes in respect of WTO rights and obligations. It does so by obligating Members to follow the multilateral rules and procedures of the DSU.

7.36. Article 23.1 provides as follows:

> *"Strengthening of the Multilateral System*
>
> When Members seek the redress of a violation of obligations or other nullification or impairment of benefits under the covered agreements or an impediment to the attainment of any objective of the covered agreements, *they shall have recourse to, and abide by*, the rules and procedures of this Understanding" (emphasis added).

7.37. Article 23.2 specifies three elements that need to be respected as part of the multilateral DSU dispute settlement process. It provides as follows:

> "In such cases [referred to in Article 23.1, i.e. when Members seek the redress of WTO inconsistencies], Members shall:
>
> (a) not make a determination to the effect that a violation has occurred, that benefits have been nullified or impaired or that the attainment of any

objective of the covered agreements has been impeded, except through recourse to dispute settlement in accordance with the rules and procedures of this Understanding, and shall make any such determination consistent with the findings contained in the panel or Appellate Body report adopted by the DSB or an arbitration award rendered under this Understanding;

(b) follow the procedures set forth in Article 21 to determine the reasonable period of time for the Member concerned to implement the recommendations and rulings; and

(c) follow the procedures set forth in Article 22 to determine the level of suspension of concessions or other obligations and obtain DSB authorization in accordance with those procedures before suspending concessions or other obligations under the covered agreements in response to the failure of the Member concerned to implement the recommendations and rulings within that reasonable period of time".

(…)

(c) "… the ordinary meaning … in the light of [the treaty's] object and purpose"

7.71. What are the objects and purposes of the DSU, and the WTO more generally, that are relevant to a construction of Article 23? The most relevant in our view are those which relate to the creation of market conditions conducive to individual economic activity in national and global markets and to the provision of a secure and predictable multilateral trading system.

7.72. Under the doctrine of direct effect, which has been found to exist most notably in the legal order of the EC but also in certain free trade area agreements, obligations addressed to States are construed as creating legally enforceable rights and obligations for individuals. Neither the GATT nor the WTO has so far been interpreted by GATT/WTO institutions as a legal order producing direct effect. [661] Following this approach, the GATT/WTO did *not* create a new legal order the subjects of which comprise both contracting parties or Members and their nationals.

7.73. However, it would be entirely wrong to consider that the position of individuals is of no relevance to the GATT/WTO legal matrix. Many of the benefits to Members which are meant to flow as a result of the acceptance of various disciplines under the GATT/WTO depend on the activity of individual economic operators in the national and global market places. The purpose

[661] We make this statement as a matter of fact, without implying any judgment on the issue. We note that whether there are circumstances where obligations in any of the WTO agreements addressed to Members would create rights for individuals which national courts must protect, remains an open question, in particular in respect of obligations following the exhaustion of DSU procedures in a specific dispute (see Eeckhout, P., *The Domestic Legal Status of the WTO Agreement: Interconnecting Legal Systems*, Common Market Law Review, 1997, p. 11; Berkey, J., *The European Court of Justice and Direct Effect for the GATT: A Question Worth Revisiting*, European Journal of International Law, 1998, p. 626). The fact that WTO institutions have not to date construed any obligations as producing direct effect does not necessarily preclude that in the legal system of any given Member, following internal constitutional principles, some obligations will be found to give rights to individuals. Our statement of fact does not prejudge any decisions by national courts on this issue.

of many of these disciplines, indeed one of the primary objects of the GATT/WTO as a whole, is to produce certain market conditions which would allow this individual activity to flourish.

7.74. The very first Preamble to the WTO Agreement states that Members recognise

> "that their relations in the field of trade and economic endeavour should be conducted with a view to raising standards of living, ensuring full employment and a large and steadily growing volume of real income and effective demand, and expanding the production of and trade in goods and services".[662]

7.75. Providing security and predictability to the multilateral trading system is another central object and purpose of the system which could be instrumental to achieving the broad objectives of the Preamble. Of all WTO disciplines, the DSU is one of the most important instruments to protect the security and predictability of the multilateral trading system and through it that of the market-place and its different operators. DSU provisions must, thus, be interpreted in the light of this object and purpose and in a manner which would most effectively enhance it. In this respect we are referring not only to preambular language but also to positive law provisions in the DSU itself. Article 3.2 of the DSU provides:

> "The dispute settlement system of the WTO is a central element in providing security and predictability to the multilateral trading system. The Members recognize that it serves to preserve the rights and obligations of Members under the covered agreements …".[663]

7.76. The security and predictability in question are of "the multilateral trading system". The multilateral trading system is, per force, composed not only of States but also, indeed mostly, of individual economic operators. The lack of security and predictability affects mostly these individual operators.

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[662] See also similar language in the second preambles to GATT 1947 and GATS. The TRIPS Agreement addresses even more explicitly the interests of individual operators, obligating WTO Members to protect the intellectual property rights of nationals of all other WTO Members. Creating market conditions so that the activity of economic operators can flourish is also reflected in the object of many WTO agreements, for example, in the non-discrimination principles in GATT, GATS and TRIPS and the market access provisions in both GATT and GATS.

[663] The importance of security and predictability as an object and purpose of the WTO has been recognized as well in many panel and Appellate Body reports. See the Appellate Body report on *Japan – Alcoholic Beverages*, op. cit., p. 31 ("WTO rules are reliable, comprehensible and enforceable. WTO rules are not so rigid or so inflexible as not to leave room for reasoned judgements in confronting the endless and ever-changing ebb and flow of real facts in real cases in the real world. They will serve the multilateral trading system best if they are interpreted with that in mind. In that way, we will achieve the 'security and predictability' sought for the multilateral trading system by the Members of the WTO through the establishment of the dispute settlement system"). It has also been referred to under the TRIPS Agreement. In the Appellate Body Report on *India – Patents (US)*, op. cit., it was found, at para. 58, that "India is obliged, by Article 70.8(a), to provide a legal mechanism for the filing of mailbox applications that provides *a sound legal basis* to preserve both the novelty of the inventions and the priority of the applications as of the relevant filing and priority dates" (italics added). See also the WTO Panel Report on *Argentina – Textiles and Apparel (US)*, op. cit., para. 6.29 and the GATT Panel Reports on *United States Manufacturing Clause*, adopted 15/16 May 1984, BISD 31S/74, para. 39; *Japan – Measures on Imports of Leather* ("*Japan – Leather*"), adopted 15/16 May 1984, BISD 31S/94, para. 55; *EEC – Imports of Newsprint*, adopted November 20 1984, BISD 31S/114, para. 52; *Norway – Restrictions on Imports of Apples and Pears*, adopted 22 June 1989, BISD 36S/306, para. 5.6.

7.77. Trade is conducted most often and increasingly by private operators. It is through improved conditions for these private operators that Members benefit from WTO disciplines. The denial of benefits to a Member which flows from a breach is often indirect and results from the impact of the breach on the market place and the activities of individuals within it. Sections 301-310 themselves recognize this nexus. One of the principal triggers for US action to vindicate US rights under covered agreements is the impact alleged breaches have had on, and the complaint emanating from, individual economic operators.

7.78. It may, thus, be convenient in the GATT/WTO legal order to speak not of the principle of direct effect but of the principle of indirect effect.

7.79. Apart from this name-of-convenience, there is nothing novel or radical in our analysis. We have already seen that it is rooted in the language of the WTO itself. It also represents a GATT/WTO orthodoxy confirmed in a variety of ways over the years including panel and Appellate Body reports as well as the practice of Members.

7.80 Consider, first, the overall obligation of Members concerning their internal legislation. Under traditional public international law a State cannot rely on its domestic law as a justification for non-performance.[664] Equally, however, under traditional public international law, legislation under which an eventual violation could, or even would, subsequently take place, does not normally in and of itself engage State responsibility. If, say, a State undertakes not to expropriate property of foreign nationals without appropriate compensation, its State responsibility would normally be engaged only at the moment foreign property had actually been expropriated in a given instance. And yet, even in the GATT, prior to the enactment of Article XVI:4 of the WTO Agreement explicitly referring to measures of a general nature, legislation as such independent from its application in specific instances was considered to constitute a violation. This is confirmed by numerous adopted GATT panel reports and is also agreed upon by both parties to this dispute. Why is it, then, that legislation as such was found to be inconsistent with GATT rules? If no specific application is at issue – if, for example, no specific discrimination has yet been made – what is it that constitutes the violation?

7.81 Indirect impact on individuals is, surely, one of the principal reasons. In treaties which concern only the relations between States, State responsibility is incurred only when an actual violation takes place. By contrast, in a treaty the benefits of which depend in part on the activity of individual operators the legislation itself may be construed as a breach, since the mere existence of legislation could have an appreciable "chilling effect" on the economic activities of individuals.

7.82 Thus, Article III:2 of GATT 1947, for example, would not, on its face, seem to prohibit legislation independently from its application to specific products. However, in light of the object and purpose of the GATT, it was read in GATT jurisprudence as a promise by contracting parties not only that they would abstain from actually imposing discriminatory taxes, but also that they would not enact legislation with that effect.

7.83 It is commonplace that domestic law in force imposing discriminatory taxation on imported products would, in and of itself, violate Article III irrespective of proof of actual discrimination in a specific case.[665] Furthermore, a domestic law which exposed imported products to future discrimination was recognized by some GATT panels to constitute, by itself, a violation of

[664] See Article 27 of the Vienna Convention.

[665] A change in the relative competitive opportunities caused by a measure of general application as such, to the detriment of imported products and in favour of domestically produced products, is the decisive criterion.

Article III, even before the law came into force.[666] Finally, and most tellingly, even where there was no certainty but only a risk under the domestic law that the tax would be discriminatory, certain GATT panels found that the law violated the obligation in Article III.[667] A similar approach was followed in respect of Article II of GATT 1994 by the WTO panel on *Argentina – Textiles and Apparel (US)* when it found that the very change in system from *ad valorem* to specific duties was a breach of Argentina's *ad valorem* tariff binding even though such change only brought about the potential of the tariff binding being exceeded depending on the price of the imported product.[668]

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[666] In the Panel Report on *US – Superfund* (op. cit., paras. 5.2.1 and 5.2.2) tax legislation as such was found to violate GATT obligations even though the legislation had not yet entered into effect. See also the Panel Report on *US - Malt Beverages* (op. cit., paras. 5.39, 5.57, 5.60 and 5.69) where the legislation imposing the tax discrimination was, for example, not being enforced by the authorities.

[667] See Panel Report on *US – Tobacco*, op. cit., para. 96:

> "The Panel noted that an internal regulation which merely exposed imported products to a risk of discrimination had previously been recognized by a GATT panel to constitute, by itself, a form of discrimination, and therefore less favourable treatment within the meaning of Article III. The Panel agreed with this analysis of risk of discrimination as enunciated by this earlier panel".

A footnote to this paragraph refers to the Panel Report on *EEC - Payments and Subsidies Paid to Processors and Producers of Oilseeds and Related Animal Feed Protein*, adopted 25 January 1990, BISD 37S/86, para. 141, which reads as follows:

> "Having made this finding the Panel examined whether a purchase regulation which does not necessarily discriminate against imported products but is capable of doing so is consistent with Article III:4. The Panel noted that the exposure of a particular imported product to a *risk* of discrimination constitutes, by itself, a form of discrimination. The Panel therefore concluded that purchase regulations creating such a risk must be considered to be according less favourable treatment within the meaning of Article III:4. The Panel found for these reasons that the payments to processors of Community oilseeds are inconsistent with Article III:4".

[668] Op. cit., paras. 6.45-6.47, in particular para. 6.46: "In the present dispute we consider that the competitive relationship of the parties was changed unilaterally by Argentina because its mandatory measure clearly has *the potential to violate its bindings, thus undermining the security and the predictability of the WTO system*" (emphasis added). This was confirmed by the Appellate Body (op. cit., para. 53):

> "In the light of this analysis, we may generalize that under the Argentine system, whether the amount of the DIEM [a regime of Minimum Specific Import Duties] is determined by applying 35 per cent, or a rate less than 35 per cent, to the representative international price, there will remain the possibility of a price that is sufficiently low to produce an *ad valorem* equivalent of the DIEM that is greater than 35 per cent. In other words, the structure and design of the Argentine system is such that for any DIEM, no matter what *ad valorem* rate is used as the multiplier of the representative international price, the possibility remains that there is a "break-even" price below which the *ad valorem* equivalent of the customs duty collected is in excess of the bound *ad valorem* rate of 35 per cent".

On that basis, the Appellate Body found that the application of a type of duty different from the type provided for in a Member's Schedule is inconsistent with Article II:1(b), first sentence, of the GATT 1994. In this respect, see also the Panel Report on *United States – Standards for Reformulated and Conventional*

7.84 The rationale in all types of cases has always been the negative effect on economic operators created by such domestic laws. An individual would simply shift his or her trading patterns – buy domestic products, for example, instead of imports – so as to avoid the would-be taxes announced in the legislation or even the mere risk of discriminatory taxation. Such risk or threat, when real, was found to affect the relative competitive opportunities between imported and domestic products because it could, in and of itself, bring about a shift in consumption from imported to domestic products: This shift would be caused by, for example, an increase in the cost of imported products and a negative impact on economic planning and investment to the detriment of those products. This rationale was paraphrased in the *Superfund* case as follows:

> "to protect expectations of the contracting parties as to the competitive relationship between their products and those of the other contracting parties. Both articles [GATT Articles III and XI] are not only to protect current trade but also to create the predictability needed to plan future trade".[669]

Doing so, the panel in *Superfund* referred to the reasoning in the *Japanese Measures on Imports of Leather* case. There the panel found that an import quota constituted a violation of Article XI of GATT even though the quota had not been filled. It did so on the following grounds:

> "the existence of a quantitative restriction should be presumed to cause nullification or impairment not only because of any effect it had had on the volume of trade but also for other reasons e.g. it would lead to increased transaction costs and would create uncertainties which could affect investment plans".[670]

7.85 In this sense, Article III:2 is not only a promise not to discriminate in a specific case, but is also designed to give certain guarantees to the market place and the operators within it that discriminatory taxes will not be imposed. For the reasons given above, any ambivalence in GATT panel jurisprudence as to whether a risk of discrimination can constitute a violation should, in our view, be resolved in favour of our reading.[671]

Gasoline, adopted 20 May 1996, WT/DS2/R, para. 6.10.

[669] Op. cit., para. 5.2.2.

[670] Panel Report on *Japan – Leather*, op. cit., para. 55. In this respect, see also Panel Report on *US – Malt Beverages* (op. cit., para. 5.60), where legislation was found to constitute a GATT violation even though it was not being enforced, for the following reason:

> "Even if Massachusetts may not currently be using its police powers to enforce this mandatory legislation, *the measure continues to be mandatory legislation which may influence the decisions of economic operators*. Hence, a non-enforcement of a mandatory law in respect of imported products does not ensure that imported beer and wine are not treated less favourably than like domestic products to which the law does not apply" (emphasis added).

[671] As a result, we do not consider that the general statements made in certain GATT panels are correct in respect of all WTO obligations and in all circumstances, for example, the statement in Panel Report on *EEC – Parts and Components* (op. cit., para. 5.25) that "[u]nder the provisions of the [GATT] which Japan claims have been violated by the EEC contracting parties are to avoid certain measures; but these provisions do not establish the obligation to avoid legislation under which the executive authorities may possibly impose such measures" and in Panel Report on *Thai – Cigarettes* (op. cit., para. 84), the statement

7.86. Similarly, Article 23 too has to be interpreted in the light of these principles which encapsulate such a central object and purpose of the WTO. It may have been plausible if one considered a strict Member-Member matrix to insist that the obligations in Article 23 do not apply to legislation that threatens unilateral determinations but does not actually mandate them. It is not, however, plausible to construe Article 23 in this way if one interprets it in the light of the indirect effect such legislation has on individuals and the market-place, the protection of which is one of the principal objects and purposes of the WTO.

7.87 To be sure, in the cases referred to above, whether the risk materialised or not depended on certain market factors such as fluctuating reference prices on which the taxation of the imported product was based by virtue of the domestic legislation. In this case, whether the risk materializes depends on a decision of a government agency. From the perspective of the individual economic operator, however, this makes little difference. Indeed, it may be more difficult to predict the outcome of discretionary government action than to predict market conditions, thereby exacerbating the negative economic impact of the type of domestic law under examination here.

7.88. When a Member imposes unilateral measures in violation of Article 23 in a specific dispute, serious damage is created both to other Members and the market-place. However, in our view, the creation of damage is not confined to actual conduct in specific cases. A law reserving the right for unilateral measures to be taken contrary to DSU rules and procedures, may – as is the case here – constitute an ongoing threat and produce a "chilling effect" causing serious damage in a variety of ways.

7.89. First, there is the damage caused directly to another Member. Members faced with a threat of unilateral action, especially when it emanates from an economically powerful Member, may in effect be forced to give in to the demands imposed by the Member exerting the threat, even before DSU procedures have been activated. To put it differently, merely carrying a big stick is, in many cases, as effective a means to having one's way as actually using the stick. The threat alone of conduct prohibited by the WTO would enable the Member concerned to exert undue leverage on other Members. It would disrupt the very stability and equilibrium which multilateral dispute resolution was meant to foster and consequently establish, namely equal protection of both large and small, powerful and less powerful Members through the consistent application of a set of rules and procedures.[672]

7.90. Second, there is the damage caused to the market-place itself. The mere fact of having legislation the statutory language of which permits conduct which is WTO prohibited – namely, the imposition of unilateral measures against other Members with which it is locked in a trade dispute – may in and of itself prompt economic operators to change their commercial behaviour in a way that distorts trade. Economic operators may be afraid, say, to continue ongoing trade with, or investment in, the industries or products threatened by unilateral measures. Existing trade may also be distorted because economic operators may feel a need to take out extra insurance to allow for the illegal possibility that the legislation contemplates, thus reducing the relative competitive opportunity of their products on the market. Other operators may be deterred from trading with such a Member altogether, distorting potential trade. The damage thus caused to the market-place may actually increase when national legislation empowers individual economic operators to trigger unilateral State action, as is the case in the US which allows individual petitioners to request the USTR to initiate an investigation under Sections 301-310.

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that "legislation merely giving the executive the possibility to act inconsistently with Article III:2 [of GATT] could not, by itself, constitute a violation of that provision". In respect of this ambivalence in GATT jurisprudence, see Chua, A., *Precedent and Principles of WTO Panel Jurisprudence*, Berkeley Journal of International Law, 1998, p. 171, in particular at p. 193.

[672] In this respect, see the statements made by third parties to this dispute in Section V of our Report.

This in itself is not illegal. But the ability conferred upon economic operators to threaten their foreign competitors with the triggering of a State procedure which includes the possibility of illegal unilateral action is another matter. It may affect their competitive economic relationship and deny certain commercial advantages that foreign competitors would otherwise have. The threat of unilateral action can be as damaging on the market-place as the action itself.

7.91. In conclusion, the risk of discrimination was found in GATT jurisprudence to constitute a violation of Article III of GATT – because of the "chilling effect" it has on economic operators. The risk of a unilateral determination of inconsistency as found in the statutory language of Section 304 itself has an equally apparent "chilling effect" on both Members and the market-place even if it is not quite certain that such a determination would be made. The point is that neither other Members nor, in particular, individuals can be reasonably certain that it will not be made.

Whereas States which are part of the international legal system may expect their treaty partners to assume good faith fulfillment of treaty obligations on their behalf, the same assumption cannot be made as regards individuals.

7.92. It is a circumspect use of the teleological method to choose that interpretation of Article 23 of the DSU that provides this certainty and eliminates the undesired "chilling effects" which run against the object and purpose of the WTO Agreement.

(…)

OFFICE *of the* UNITED STATES TRADE REPRESENTATIVE
EXECUTIVE OFFICE OF THE PRESIDENT

FINDINGS OF THE INVESTIGATION INTO CHINA'S ACTS, POLICIES, AND PRACTICES RELATED TO TECHNOLOGY TRANSFER, INTELLECTUAL PROPERTY, AND INNOVATION UNDER SECTION 301 OF THE TRADE ACT OF 1974

March 22, 2018

Abbreviations and Acronyms

Acronym	Definition
3PLA	People's Liberation Army, Third Department
4WD	four-wheel drive
AAFA	American Apparel & Footwear Association
ABA	American Bar Association
ABC	Agriculture Bank of China
ABPIA	American Bridal & Prom Industry Association
ACC	American Chemistry Council
AEI	American Enterprise Institute
AGIC	Asia-Germany Industrial Promotion Capital
AI	artificial intelligence
AmCham	American Chamber of Commerce Shanghai
AML	Anti-Monopoly Law
AMSC	American Superconductor Corporation
APEC	Asia-Pacific Economic Cooperation
APT	advanced persistent threat
AQSIQ	Administration of Quality Supervision, Inspection and Quarantine
ATI	Allegheny Technologies, Inc
AVIC	Aviation Industry Corporation of China
AVICEM	ACIF Electromechanical Systems Co., Ltd
AWD	all-wheel drive
BCM	Bank of Communications
BEA	U.S. Bureau of Economic Analysis
BGI	Shenzhen Beijing Genomics Institute
BIO	Biotechnology Innovation Organization
BIS	Bureau of Industry and Security
BoC	Bank of China
BRI	Belt and Road Initiative
BRIC	Brazil, Russia, India, and China
C&C	command-and-control
CAAC	Civil Aviation Administration of China
CAIGA	China Aviation Industry General Aircraft Co.
CAST	China Association of Science and Technology
CCBC	China Construction Bank Corporation
CCC	China Compulsory Certification
CCCME	China Chamber of Commerce for Import & Export of Machinery and Electronic Products
CCOIC	China Chamber of International Commerce
CCP	Chinese Communist Party
CCXR	China Chengxin Securities Rating Company
CDB	China Development Bank
CFIUS	Committee on Foreign Investment in the United States
CG	Complete Genomics
CGCC	China General Chamber of Commerce
CIC	China Investment Corporation
CIGS	copper indium gallium selenide
CIPL	China Intellectual Property Law Society

CJV	contractual joint venture
CMG	Continental Motors Group Limited
CMOS	complementary metal-oxide semiconductor
CNOOC	China National Offshore Oil Corporation
CNY	Chinese yuan
COMAC	Commercial Aircraft Corporation of China, Ltd
CompTIA	Computing Technology Industry Association
CPPCC	Chinese People's Political Consultative Conference
CSI	Coalition of Services Industries
CSIS	Center for Strategic and International Studies
CSP	cloud service providers
CTA	Consumer Technology Association
DHH	DHH Washington Law Office
DHS	U.S. Department of Homeland Security
DOJ	U.S. Department of Justice
DRC	Development and Reform Commission
EJV	equity joint venture
EXIM	China Export-Import Bank
FADEC	full authority digital engine control
FAW	First Automotive Workers
FDI	foreign direct investment
FIE	foreign-invested entities
FYP	Five-Year Plan for National Economic and Social Development
GA	general aviation
GAC	General Administration of Customs
GDP	gross domestic product
GMO	genetically modified organism
HNA	Hainan Airlines
IaaS	infrastructure as a service
IAM	International Association of Machinists and Aerospace Workers
IATA	International Air Transport Association
IC	integrated circuit
ICBC	Industrial and Commercial Bank of China
ICT	information and communications technology
ICTSD	International Center for Trade and Sustainable Development
IDAR	introduce, digest, absorb, and re-innovate
IDC	internet data center
IDDS	innovation-driven development strategy
IGBT	insulated-gate bipolar transistors
IGCC	University of California Institute on Global Conflict and Cooperation
IMF	International Monetary Fund
iML	Integrated Memory Logic Limited
IP	intellectual property
IPIRA	Intellectual Property and Industry Research Alliances
ISS	Imaging Solutions and Services
ISSI	Integrated Silicon Solutions, Inc.
IT	information technology
ITAR	International Traffic in Arms Regulations
ITI	Information Technology Industry Council

ITIF	Information Technology & Innovation Foundation
JCCT	U.S.-China Joint Commission on Commerce and Trade
JV	joint venture
M&A	merger and acquisitions
MCF	military-civil fusion
MCM	multi-chip module
MEMA	Motor & Equipment Manufacturers Association
MEMS	micro-electromechanical systems
MERICS	Mercator Institute for China Studies
METI	Ministry of Economy, Trade, and Industry
MIIT	Ministry of Industry and Information Technology
MLP	National Medium- and Long-Term Plan for the Development of Science and Technology
MLPS	Multi-level Protection Scheme
MLR	Ministry of Land and Resources of the People's Republic of China
MNE	multinational enterprise
MOA	Ministry of Agriculture of the People's Republic of China
MOF	Ministry of Finance of the People's Republic of China
MOFCOM	Ministry of Commerce of the People's Republic of China
MOST	Ministry of Science and Technology of the People's Republic of China
MPS	managed print services
MRO	maintenance, repair, and overhaul
MSS	China's Ministry of State Security
MW	megawatt
NAM	National Association of Manufacturers
NBC	National Bureau of Statistics of the People's Republic of China
NDRC	National Development and Reform Commission
NEA	National Energy Administration
NEV	new-energy vehicle
NFTC	National Foreign Trade Council
NHI	Northern Heavy Industries Group
NPC	National People's Congress (China)
NTE	National Trade Estimate
OCTG	oil country tubular goods
ODI	overseas direct investment
OECD	Organization for Economic Cooperation and Development
OFDI	outbound foreign direct investment
PaaS	computer platform as a service
PBOC	People's Bank of China
PERC	Passivated Emitter Rear Contact
PLA	China's People's Liberation Army
PMA	parts manufacturing and authorization
PMDD	Permanent-Magnet Direct Drive
PPD-28	Presidential Policy Directive 28
PPP	private-public partnership
PRC	People's Republic of China
PWM	pulse width modulation
R&D	research and development
RMB	renminbi (official currency of China)
S&ED	U.S.-China Strategic & Economic Dialogue

S&T	science and technology
SaaS	computer software as a service
SAFE	State Administration of Foreign Exchange
SAIC	State Administration of Industry Commerce
SASAC	State-owned Assets Supervision and Administration Commission
SASTIND	State Administration for Science, Technology, and Industry for National Defense
SAT	State Administration of Taxes
SEI	strategic and emerging industries
SIA	Semiconductor Industry Association
SIGINT	Signals intelligence
SIPO	State Intellectual Property Office
SMIC	Semiconductor Manufacturing International Corporation
SNPTC	State Nuclear Power Technology Corporation
SOE	state-owned enterprise
SSLP	seamless standard line pipes
TIA	Telecommunications Industry Association
TIER	*Regulations of the PRC on Administration of Import and Export Technologies*
TRB	technical reconnaissance bureau
TRIPS	Trade-Related Aspects of Intellectual Property Rights
UAV	unmanned aerial vehicle
UNCTAD	United Nations Conference on Trade and Development
USC	United States Constitution
USCBC	U.S.-China Business Council
USCIB	U.S. Council for International Business
USD	U.S. dollars
USITC	U.S. International Trade Commission
USPTO	U.S. Patent and Trademark Office
USW	United Steel Workers
UT	United Turbine
VAT	value-added tax
VC	venture capital
WFOE	wholly foreign-owned entity
WIPO	UN's World Intellectual Property Organization
WNA	World Nuclear Association
ZGC	Zhongguancun

CONTENTS

I. Overview

A. Core Elements of Section 301

This investigation has been brought under Section 301 of the Trade Act of 1974, as amended **(**the Trade Act**)**.[1] Section 301 is a key enforcement tool that may be used to address a wide variety of unfair acts, policies, and practices of U.S. trading partners. Section 301 sets out three categories of acts, policies, or practices of a foreign country that are potentially actionable: (i) trade agreement violations; (ii) acts, policies or practices that are unjustifiable (defined as those that are inconsistent with U.S. international legal rights) and that burden or restrict U.S. Commerce; and (iii) acts, policies or practices that are unreasonable or discriminatory and that burden or restrict U.S. Commerce.[2] The third category of conduct is most relevant to this investigation.

Section 301 defines "discriminatory" to "include, when appropriate, any act, policy, and practice which denies national or most-favored nation treatment to United States goods, service, or investment."[3] An "unreasonable" act, policy, or practice is one that "while not necessarily in violation of, or inconsistent with, the international legal rights of the United States is otherwise unfair and inequitable."[4] The statute further provides that in determining if a foreign country's practices are unreasonable, reciprocal opportunities to those denied U.S. firms "shall be taken into account, to the extent appropriate."[5]

If the USTR determines that the Section 301 investigation "involves a trade agreement," and if that trade agreement includes formal dispute settlement procedures, USTR may pursue the investigation through consultations and dispute settlement under the trade agreement. Otherwise, USTR will conduct the investigation without recourse to formal dispute settlement.

Moreover, if the USTR determines that the act, policy, or practice falls within any of the three categories of actionable conduct under Section 301, the USTR must also determine what action, if any, to take.[6] For example, if the USTR determines that an act, policy or practice is unreasonable or discriminatory and that it burdens or restricts U.S. commerce,

> The Trade Representative shall take all appropriate and feasible action authorized under [Section 301(c)], subject to the specific direction, if any, of the President regarding any such action, and all other appropriate and feasible action within the power of the President that the President may

[1] Unless otherwise specified, "Section 301" refers generally to Chapter 1 of Title III of the Trade Act of 1974 (codified as amended in 19 U.S.C. §§ 2411-2417). Furthermore, for ease of reference, full citations are used throughout this report.
[2] Trade Act of 1974, 19 U.S.C. § 2411(a)-(b).
[3] 19 U.S.C. § 2411(d)(5). Section III describes discriminatory acts, practices, and policies of the Chinese government.
[4] 19 U.S.C. § 2411(d)(3)(A).
[5] 19 U.S.C. § 2411(d)(3)(D).
[6] For example, in 2014, USTR determined that action against Ukraine was not appropriate due to the political situation. *See Notice of Determination in Section 301 Investigation of Ukraine*, 79 Fed. Reg. 14,326-27 (Mar. 13, 2014).

> direct the Trade Representative to take under this subsection, to obtain the elimination of that act, policy, or practice.[7]

Actions specifically authorized under Section 301(c) include: (i) suspending, withdrawing or preventing the application of benefits of trade agreement concessions; (ii) imposing duties, fees, or other import restrictions on the goods or services of the foreign country for such time as deemed appropriate; (iii) withdrawing or suspending preferential duty treatment under a preference program; (iv) entering into binding agreements that commit the foreign country to eliminate or phase out the offending conduct or to provide compensatory trade benefits; or (v) restricting or denying the issuance of service sector authorizations, which are federal permits or other authorizations needed to supply services in some sectors in the United States.[8] In addition to these specifically enumerated actions, the USTR may take any actions that are "within the President's power with respect to trade in goods or services, or with respect to any other area of pertinent relations with the foreign country."[9]

B. Background to the Investigation

On August 14, 2017, the President issued a Memorandum to the Trade Representative stating *inter alia* that:

> China has implemented laws, policies, and practices and has taken actions related to intellectual property, innovation, and technology that may encourage or require the transfer of American technology and intellectual property to enterprises in China or that may otherwise negatively affect American economic interests. These laws, policies, practices, and actions may inhibit United States exports, deprive United States citizens of fair remuneration for their innovations, divert American jobs to workers in China, contribute to our trade deficit with China, and otherwise undermine American manufacturing, services, and innovation.[10]

The President instructed USTR to determine under Section 301 whether to investigate China's law, policies, practices, or actions that may be unreasonable or discriminatory and that may be harming American intellectual property rights, innovation, or technology development.[11]

Concerns about a wide range of unfair practices of the Chinese government (and the Chinese Communist Party (CCP)) related to technology transfer, intellectual property, and innovation are longstanding. USTR has pursued these issues multilaterally, for example, through the WTO dispute settlement process and in WTO committees, and bilaterally through the annual Special 301 review. These issues also have been raised in bilateral dialogues with China, including the U.S.-China Joint Commission on Commerce and Trade (JCCT) and U.S.-China Strategic & Economic Dialogue (S&ED), to attempt to address some of the U.S. concerns.

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[7] 19 U.S.C. § 2411(b).
[8] In cases in which USTR determines that import restrictions are the appropriate action, preference must be given to the imposition of duties over other forms of action. 19 U.S.C. §§ 2411(c).
[9] 19 U.S.C. § 2411(b)(2).
[10] *See Addressing China's Laws, Policies, Practices, and Actions Related to Intellectual Property, Innovation, and Technology*, 82 Fed. Reg. 39,007 (Aug. 17, 2017).
[11] *Id.*

1. Initiation of the Investigation

USTR initiated this investigation on August 18, 2017 after consultation with the interagency Section 301 committee and private sector advisory committees.[12] On that same date, USTR also requested consultations with the Government of China.[13] China's Minister of Commerce responded to this letter on August 28, opposing the initiation of a Section 301 investigation.[14]

The *Federal Register Notice* described the focus of the investigation as follows:

> **First**, the Chinese government reportedly uses a variety of tools, including opaque and discretionary administrative approval processes, joint venture requirements, foreign equity limitations, procurements, and other mechanisms to regulate or intervene in U.S. companies' operations in China, in order to require or pressure the transfer of technologies and intellectual property to Chinese companies. Moreover, many U.S. companies report facing vague and unwritten rules, as well as local rules that diverge from national ones, which are applied in a selective and non-transparent manner by Chinese government officials to pressure technology transfer.
>
> **Second**, the Chinese government's acts, policies and practices reportedly deprive U.S. companies of the ability to set market-based terms in licensing and other technology-related negotiations with Chinese companies and undermine U.S. companies' control over their technology in China. For example, the *Regulations on Technology Import and Export Administration* mandate particular terms for indemnities and ownership of technology improvements for imported technology, and other measures also impose non-market terms in licensing and technology contracts.
>
> **Third**, the Chinese government reportedly directs and/or unfairly facilitates the systematic investment in, and/or acquisition of, U.S. companies and assets by Chinese companies to obtain cutting-edge technologies and intellectual property and generate large-scale technology transfer in industries deemed important by Chinese government industrial plans.
>
> **Fourth**, the investigation will consider whether the Chinese government is conducting or supporting unauthorized intrusions into U.S. commercial computer networks or cyber-enabled theft of intellectual property, trade secrets, or confidential business information, and whether this conduct harms U.S. companies or provides competitive advantages to Chinese companies or commercial sectors.

[12] *See Initiation of Section 301 Investigation; Hearing; and Request for Public Comments: China's Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation*, 82 Fed. Reg. 40,213-14 (Aug. 24, 2017) (Appendix A).
[13] *See* Appendix A.
[14] *See* Letter from Minster of Commerce Zhong Shan to Ambassador Robert Lighthizer (Aug. 28, 2017) (on file with author).

In addition to these four types of conduct, interested parties could submit for consideration information on other acts, policies and practices of China relating to technology transfer, intellectual property, and innovation for potential inclusion in this investigation or to be addressed through other applicable mechanisms.[15]

The terms "technology" and "technology transfer" are key concepts in this investigation. They are defined in Box I.1.

Box I.1: Technology and Technology Transfer Defined

Technology is defined broadly in this investigation to include knowledge and information needed to produce and deliver goods and services, as well as other methods and processes used to solve practical, technical or scientific problems. In addition to information protected by patents, copyrights, trademarks, trade secrets, and other types of intellectual property (IP) protections, the term also includes "know-how", such as production processes, management techniques, expertise, and the knowledge of personnel.

Technology and innovation are critical factors in maintaining U.S. competitiveness in the global economy. Among all major economies, the United States has the highest concentration of knowledge- and technology-intensive industries as a share of total economic activity. And in high-tech manufacturing, the United States leads the world with a global share of production of 29 percent, followed by China at 27 percent.

Technology transfers made on voluntary and mutually-agreed terms, and without government interference or distortion, are critical to the U.S. economy. In fact, U.S. companies are global leaders in the transfer of technology through legal mechanisms such as trade in high-tech goods and services; the licensing of technology to companies and persons abroad; and foreign direct investment (FDI).

Sources: OECD, *Glossary of Statistical Terms;* Keith E. Maskus, UNCTAD-ICTSD, Encouraging International Technology Transfer 9 (2004); U.S. Dept. of Commerce, Intellectual Property and the U.S. Economy 1 (2012); National Science Board, Science & Engineering Indicators 4, 4-17 (2016); OECD, *Main Science and Technology Indicators*: Technology Balance of Payments: Receipts (Current Prices), 2016; UNCTAD, World Investment Report, 2017, 14.

2. China's Bilateral Commitments to End its Technology Transfer Regime and to Refrain from State-Sponsored Cyber Intrusions and Theft

In the bilateral relationship, China repeatedly has committed to eliminate aspects of its technology transfer regime. On at least eight occasions since 2010, the Chinese government has committed not to use technology transfer as a condition for market access and to permit technology transfer decisions to be negotiated independently by businesses. China has further committed not to pressure the disclosure of trade secrets in regulatory or administrative

[15] *See* Appendix A.

proceedings. The evidence adduced in this investigation establishes that China's technology transfer regime continues, notwithstanding repeated bilateral commitments and government statements, as summarized in Table I.1, below, and discussed in the remainder of this report.

Table I.1 China's Bilateral Commitments Relating to Technology Transfer, 2010 - 2016

Year	Mechanism	Commitment
2010	S&ED	China reaffirmed that the terms and conditions of technology transfer, production processes, and other proprietary information will be determined by individual enterprises.
2011	JCCT	China confirmed that it does not and will not maintain measures that mandate the transfer of technology in the New Energy Vehicles Sector. China further clarified that "mastery of core technology" does not require technology transfer for NEVs.
2012	S&ED	China reaffirmed its commitment that technology transfer is to be decided by firms independently and not to be used by the Chinese government as a pre-condition for market access.
2012	Xi Visit Commitment	China reiterated that technology transfer and technological cooperation shall be decided by businesses independently and will not be used by the Chinese government as a pre-condition for market access.
2012	JCCT	China reaffirmed that technology transfer and technology cooperation are the autonomous decisions of enterprises. China committed that it would not make technology transfer a precondition for market access.
2014	JCCT	China committed that enterprises are free to base technology transfer decisions on business and market considerations, and are free to independently negotiate and decide whether and under what circumstances to assign or license intellectual property rights to affiliated or unaffiliated enterprises.
2014	JCCT	China confirmed that trade secrets submitted to the government in administrative or regulatory proceedings are to be protected from improper disclosure to the public and only disclosed to government officials in connection with their official duties in accordance with law.
2015	Xi Visit Commitment	China committed not to advance generally applicable policies or practices that require the transfer of intellectual property rights or technology as a condition of doing business in the Chinese market.
2015	Xi Visit Commitment	China committed to refrain from conducting or knowingly supporting cyber-enabled theft of intellectual property cyber-enabled theft of intellectual property, including trade secrets or other confidential business information, with the intent of providing competitive advantages to companies or commercial sectors.
2016	Xi Visit Commitment	China committed not to require the transfer of intellectual property rights or technology as a condition of doing business.

Source: USTR, CATALOGUE OF JCCT AND S&ED COMMITMENTS (2016); 2016 USTR REP. TO CONG. ON CHINA'S WTO COMPLIANCE 7.

3. Input from the Public

USTR provided the public and interested persons with opportunities to present their views and perspectives on the issues highlighted in the *Federal Register Notice*, including through a public hearing on October 10, 2017.[16] Witnesses with varied interests and perspectives testified and responded to questions from the interagency Section 301 committee including representatives of U.S. companies and workers, trade and professional associations, and think tanks, as well as law firms and representatives of trade and professional associations headquartered in China.[17] Interested persons also filed approximately 70 written submissions in the public docket for this investigation.[18]

As U.S. companies have stated for more than a decade,[19] they fear that they will face retaliation or the loss of business opportunities if they come forward to complain about China's unfair trade practices. Concerns about Chinese retaliation arose in this investigation as well. Multiple submissions noted the great reluctance of U.S. companies to share information on China's technology transfer regime, given the importance of the China market to their businesses and the fact that Chinese government officials are "not shy about retaliating against critics."[20]

For example, a representative of the Commission on the Theft of American Intellectual Property testified at the hearing: "American companies are intimidated and reticent over the issue, especially in China. There they risk punishment by a powerful and opaque Chinese regulatory system."[21] In addition, according to the U.S. China Business Council, their member companies do not presently have "reliable channel[s] to report abuses and to appeal adverse decisions…without fear of retaliation."[22] Similarly, a representative of SolarWorld stated that "many other companies face the same issues of cyberhacking and technology theft that [it] has faced, but are unwilling to come forward publicly due to fear of lost sales or retaliation by China."[23]

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[16] The transcript of the hearing is available on the Federal eRulemaking Portal, https://www.regulations.gov and on USTR's website, https://ustr.gov.

[17] The following individuals participated in the public hearing: Richard Ellings, Commission on the Theft of American Intellectual Property; Stephen Ezell, Information Technology and Innovation Foundation; Erin Ennis, US-China Business Council; Owen Herrnstadt, International Association of Machinists and Aerospace Workers; Juergen Stein, SolarWorld; Daniel Patrick McGahn, American Superconductor Corporation; William Mansfield, ABRO Industries; Scott Partridge, American Bar Association Intellectual Property Law Section; Scott Kennedy, Center for Strategic and International Studies; Jin Haijun, China Intellectual Property Law Society; Chen Zhou and Liu Chao, China Chamber of International Commerce; XU Chen, China General Chamber of Commerce; John Tang, DHH Washington Law Office; Wang Guiqing, China Chamber of Commerce for Import and Export of Machinery and Export Products. *See* Appendix B.

[18] *See* Appendix C for a summary of the public submissions. The submissions can be viewed on the Federal eRulemaking Portal, https://www.regulations.gov.

[19] U.S. CHINA BUSINESS COUNCIL [*hereinafter* "USCBC"], *Submission*, *Section 301 Hearing* 4 (Sept. 28, 2017); *see also* SOLARWORLD, *Submission*, *Section 301 Hearing* 2 (Oct. 20, 2017).

[20] James Lewis, CENTER FOR STRATEGIC & INT'L. STUDIES [*hereinafter* "CSIS"], *Submission, Section 301 Hearing* 6 (Sept. 27, 2017); *see also* Lee Branstetter, *Submission, Section 301 Hearing* 4 (Sept. 28, 2017); Stephen Zirschky, *Submission, Section 301 Hearing* 2 (Sept. 28, 2017).

[21] USTR, *Hearing Transcript*, *Section 301 Hearing* 13 (Oct. 10, 2017); *see also* COMM'N. ON THE THEFT OF AM. IP [*hereinafter* "IP Commission"], *Submission, Section 301 Hearing* 8 (Sept. 28, 2017).

[22] USCBC, *Submission*, *Section 301 Hearing* 4 (Sept. 28, 2017).

[23] SOLARWORLD, *Submission*, *Section 301 Hearing* 2 (Oct. 20, 2017).

Because USTR self-initiated this action, no particular company or group of companies was required to step forward and file a Section 301 petition to initiate this investigation. Moreover, in making this determination, USTR and the interagency Section 301 committee took into account not just investigation submissions and testimony but also public reports, scholarly articles, and other reliable information. In addition, business confidential information has been provided and considered as part of the record in this investigation, so that companies could share sensitive information without the threat of business loss or retaliation.

C. China's Technology Drive

Official publications of the Chinese government and the CCP set out China's ambitious technology-related industrial policies. These policies are driven in large part by China's goals of dominating its domestic market and becoming a global leader in a wide range of technologies, especially advanced technologies. The industrial policies reflect a top-down, state-directed approach to technology development and are founded on concepts such as "indigenous innovation" and "re-innovation" of foreign technologies, among others. The Chinese government regards technology development as integral to its economic development and seeks to attain domestic dominance and global leadership in a wide range of technologies for economic and national security reasons.[24] China accordingly seeks to reduce its dependence on technologies from other countries and move up the value chain, advancing from low-cost manufacturing to become a "global innovation power in science and technology."[25] In pursuit of this overarching objective, China has issued a large number of industrial policies, including more than 100 five-year plans, science and technology development plans, and sectoral plans over the last decade.[26] Some of the most prominent industrial policies include the *National Medium- and Long-Term Science and Technology Development Plan Outline (2006-2020)* (*MLP*),[27] the *State Council Decision on Accelerating and Cultivating the Development of Strategic Emerging Industries* (*SEI Decision*)[28], and, more recently, the *Notice on Issuing "Made in China 2025"* (*Made in China 2025 Notice*).[29]

The *MLP*, issued in 2005 and covering the period 2006 to 2020, is the seminal document articulating China's long-term technology development strategy. The *MLP* recognizes the country's "relatively weak indigenous innovation capacity," its "weak core competitiveness of enterprises," and the fact that the country's high-technology industries "lag" those of more developed nations."[30]

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[24] *See* James Lewis, *Submission*, *Section 301 Hearing* 1 (Sept. 2017).
[25] *CCP State Council Releases the "National Innovation-Driven Development Strategy Guidelines* §2(3) [Chinese], XINHUA NEWS, May 19, 2016, http://news.xinhuanet.com/politics/2016-05/19/c_1118898033.htm.; *see also* TAI MING CHEUNG ET AL., U.S.-CHINA ECON. & SEC. REV. COMM'N, PLANNING FOR INNOVATION: UNDERSTANDING CHINA'S PLANS FOR TECHNOLOGICAL, ENERGY, INDUSTRIAL AND DEFENSE DEVELOPMENT [*hereinafter* "IGCC REPORT"] xiii (2016).
[26] IGCC REPORT at 30.
[27] *Notice on Issuing the National Medium- and Long-Term Science and Technology Development Plan Outline (2006-2020)* [*hereinafter* "MLP"] (State Council, Guo Fa [2005] No. 44, issued Dec. 26, 2005).
[28] *Decision on Accelerating the Cultivation and Development of Strategic Emerging Industries* (State Council, Guo Fa [2010] No. 32, issued Oct. 10, 2010).
[29] *Notice on Issuing "Made in China 2025"* (State Council, Guo Fa [2015] No. 28, issued May 8, 2015).
[30] *MLP* §1.

As its focus, the *MLP* identifies 11 key sectors, and 68 priority areas within these sectors, for technology development.[31] It also designates eight fields of "frontier technology,"[32] within which 27 "breakthrough technologies" will be pursued, and highlights four major scientific research programs.[33] The *MLP* also establishes the cross-cutting goal of reducing the rate of dependence on foreign technologies in the identified sectors to below 30% by the year 2020.[34]

The *MLP* strategy for securing sought-after technology development includes several key elements, which continue to have a negative impact on U.S. and other foreign companies:

- A top-down national strategy, in which implementation requires the mobilization and participation of all sectors of society[35] and the integration of civil and military resources;[36]

- Prioritization of certain industries and technologies for development,[37] particularly those that can advance "sustainable development," "core competitiveness," "public service," and "national security" objectives.[38]

- Leveraging state resources and regulatory systems;[39]

- Import substitution to be achieved through "indigenous innovation"[40] and re-innovation based on assimilation and absorption of foreign technologies;[41] and

- Promoting Chinese enterprises to become dominant in the domestic market[42] and internationally competitive enterprises[43] in key industries.

The *MLP* set in motion a web of policies and practices intended to drive innovation and re-innovation. For example, Section 8(2) of the *MLP* calls for "enhancing the absorption, digestion,

[31] The sectors include energy, water and mineral resources, environment, agriculture, manufacturing, transportation, information and services, population and health, urbanization, public security and national defense.
[32] The areas include biotech, information technology, advanced materials, advanced manufacturing, advanced energy technology, marine technology, laser technology and aerospace technology.
[33] The fields include protein science, nanotechnology, quantum physics and developmental and reproductive science.
[34] *MLP* § 2(2) ¶ 3, *Guiding Directives, Development Targets, and Comprehensive Arrangements*.
[35] *MLP* § 2(1). ("In sum, we must make enhancing indigenous innovation capacity our national strategy, and implement it in all aspects of modernization construction and in every industry, sector and region."). §8(5) also guides "all types of financial institutions and private funds to participate in science and technology development."
[36] *MLP* § 8(7).
[37] *MLP* § 3 sets out the "Key Sectors and their Priority Issues."
[38] *MLP* § 3, *Preamble*.
[39] *MLP* § 9.
[40] *MLP* § 2(1).
[41] *MLP* §§ 2(1), 8(2). The term "introduce" used throughout *MLP* refers to introduction of technology through foreign investment. This is made more explicit in the measures defining and discussing IDAR below.
[42] *MLP* § 2(2) states dependence on foreign technology should be reduced to only 30% by 2020.
[43] *See* IGCC REPORT at 157. *See also MLP* § 2.

and re-innovation of introduced technology."[44] Following the issuance of the *MLP*, China detailed these policies in the *Several Supporting Policies for Implementing the "National Medium- and Long-Term Science and Technology Development Plan Outline (2006-2020)"* (*MLP Supporting Policies*)[45] and the *Opinions on Encouraging Technology Introduction and Innovation and Promoting the Transformation of the Growth Mode in Foreign Trade* (*IDAR Opinions*),[46] which articulate the concept of **I**ntroducing,[47] **D**igesting,[48] **A**bsorbing,[49] and **R**e-innovating[50] foreign intellectual property and technology (IDAR). The IDAR approach involves four steps, each of which hinges on close collaboration between the Chinese government and Chinese industry to take full advantage of foreign technologies:

- Introduce: Chinese companies should target and acquire foreign technology. Methods of "introducing" foreign technology that are specifically referenced include: technology transfer agreements, inbound investment, technology imports, establishing foreign R&D centers, outbound investment, and the collection of market intelligence by state entities for the benefit of Chinese companies.[51] Technology to be "introduced" from overseas includes "major equipment that cannot yet be supplied domestically", as well as "advanced design and manufacturing technology";[52] conversely, the government discourages imports of technologies for which China is already deemed to "possess domestic R&D capabilities."[53]

- Digest: Following the acquisition of foreign technology, the Chinese government should collaborate with China's domestic industry to collect, analyze, and disseminate the information and technology that has been acquired.[54]

- Absorb: The Chinese government and China's domestic industry should collaborate to develop products using the technology that has been acquired. The Chinese government should provide financial assistance to develop products using technology obtained through IDAR, including foreign trade development funds, government procurement, and fiscal incentives.[55] To absorb foreign technologies, authorities have established engineering research centers, enterprise-based technology centers, state laboratories, national technology transfer centers, and high-technology service centers.[56]

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[44] *MLP* §§ 2(1), 8(2).
[45] *Several Supporting Policies for Implementing the "National Medium- and Long-Term Science and Technology Development Plan Outline (2006-2020)"* (State Council, Guo Fa [2006] No. 6, issued Feb. 7, 2006).
[46] *Several Opinions on Encouraging Technology Introduction and Innovation and Promoting the Transformation of the Growth Mode in Foreign Trade* (MOFCOM, NDRC, MOST, MOF, GAC, SAT, SIPO, SAFE, Shang Fu Mao Fa [2006] No. 13, issued July 14, 2006).
[47] English translation of Chinese term *yinjin*.
[48] English translation of Chinese term *xiaohua*.
[49] English translation of Chinese term *xishou*.
[50] English translation of Chinese term *zai chuangxin*.
[51] *IDAR Opinions* § 7-9, 11-12. *See also* IGCC REPORT at 118-119.
[52] *MLP Supporting Policies* § 28, 29.
[53] *MLP Supporting Policies* § 29.
[54] *IDAR Opinions* § 7; *MLP Supporting Policies* § 31.
[55] *IDAR Opinions* § 15, 18; *MLP Supporting Policies* § 30, 32.
[56] IGCC REPORT at 118.

- Re-innovate: At this stage, Chinese companies should "re-innovate" and improve upon the foreign technology. The ultimate objective is to develop new, home-grown products that are competitive internationally, so as to "allow enterprises to possess more indigenous intellectual property for core products and core technologies."[57]

The IDAR approach embraces a strong role for the Chinese government in guiding and assisting Chinese industry in technology development and has had profound implications, in particular, for the way in which China has sought to introduce foreign technologies into China over the last decade. It has spurred Chinese government ministries and government officials to pursue an array of aggressive implementing acts, policies, and practices, including those that are the subject of this investigation.

China has continued to emphasize the IDAR approach since it was first articulated in 2006 in broad-ranging five-year plans and technology development plans issued by China's State Council, central government ministries and provincial and municipal governments, and the CCP. The IDAR approach also has been incorporated into numerous economic development plans for specific sectors, such as integrated circuits.[58]

In 2010, the Chinese government announced another seminal technology development strategy, which calls for the accelerated development of seven so-called "strategic emerging industries" (SEIs): (1) energy efficient and environmental technologies, (2) next generation information technology, (3) biotechnology, (4) high-end equipment manufacturing, (5) new energy, (6) new materials, and (7) new energy vehicles.[59] The *12th Five-year National Strategic Emerging Industries Development Plan* (*12th Five-year SEI Plan*)[60] subsequently recommended specific fiscal and taxation policy support and set a target for SEIs to account for 8% of China's economy by 2015 and 15% by 2020. The *12th Five-year SEI Plan* also aims to foster a group of Chinese enterprises – including state-owned enterprises – into "backbone enterprises" that can become

[57] *IDAR Opinions* § 5.
[58] *E.g.*, *12th Five-year Development Plan for the Integrated Circuit Industry* (Ministry of Industry and Information Technology, published Feb. 24, 2012) § 3(1), ¶ 3: "Maintain innovation drivers. Combine implementation of national science and technology major special projects and megaprojects, using innovation in technologies, modes, mechanisms, and systems as the impetus to make breakthroughs in a group of shared core technologies. Strengthen *introduce, digest, absorb, and re-innovate*, to stride down the path of open-type innovation and internationalized development." (emphasis added).
[59] *State Council Decision on Accelerating the Development of Strategic Emerging Industries* (State Council, Guo Fa [2010], No. 32, issued Oct. 10, 2010).
[60] *Notice on Issuing the 12th Five-year National Strategic Emerging Industries Development Plan* (State Council, Guo Fa [2012] No. 28, issued July 9, 2012).

market leaders domestically and compete globally.[61] The Chinese government later reaffirmed and refined this strategy in its *13th Five-year Strategic Emerging Industries Development Plan*.[62]

Notably, support for the IDAR strategy was reiterated in the CCP's 2013 *Third Plenum Decision*[63] (*Third Plenum Decision*) released in connection with the Third Plenary Session of the 18th National Congress of the CCP. IDAR's inclusion in the *Third Plenum Decision* is significant because the document was widely seen as setting forth the priorities of President Xi Jinping's new administration with respect to China's future economic development path.[64] By reaffirming that China should "establish and perfect a mechanism to encourage original innovation, integrated innovation, and introduce, absorb, digest, and re-innovate,"[65] the *Third Plenum Decision* signaled the CCP's continued high-level support for the IDAR approach to technology innovation.

In 2015, the State Council released the *Made in China 2025 Notice*,[66] which is China's ten-year plan for targeting ten strategic advanced technology manufacturing industries for promotion and development: (1) advanced information technology; (2) robotics and automated machine tools; (3) aircraft and aircraft components; (4) maritime vessels and marine engineering equipment; (5) advanced rail equipment; (6) new energy vehicles; (7) electrical generation and transmission equipment; (8) agricultural machinery and equipment; (9) new materials; and (10) pharmaceuticals and advanced medical devices.[67]

While the *Made in China 2025 Notice* references market-oriented principles, it closely resembles China's other state-led, technology-related plans, such as the *MLP*, issued a decade earlier, in that it:

- Reaffirms the Chinese government's central role in economic planning;[68]

[61] For example, the *12th Five-year National Economic and Social Development Plan Outline* (adopted by the NPC on Mar. 14, 2011) calls for the cultivation of a group of backbone enterprises within strategic emerging industries. Ch. 10, §2 "Fostering the Development of Strategic Emerging Industries". The *12th Five-year SEI Plan* further specifies that backbone enterprises are to have "relatively strong indigenous innovation capacity and a technological leadership effects." § 2(3), "Guiding Thoughts, Fundamental Principles, and Development Targets". At the sectoral level, the *Guidelines for the Development and Promotion of the Integrated Circuit Industry* (State Council, issued June 24, 2014) laud the fact that China has established "a group of backbone enterprises with significant international competitiveness." § 1, ¶ 1. The *Guiding Opinion on Promoting International Industrial Capacity and Equipment Manufacturing Cooperation* (State Council, Guo Fa [2015] No. 30, issued May 13, 2015) provides that a "main target" of the policy is to "establish a group of backbone enterprises that possess international competitiveness and the ability to open up markets." § 2(6).

[62] *Notice on Issuing the 13th Five-year National Strategic Emerging Industries Development Plan* (State Council, Guo Fa [2016] No. 67, issued Nov. 29, 2016).

[63] *CCP Central Committee Decision on Several Major Issues for Comprehensively Deepening Reform* (CCP Central Committee, issued Nov. 12, 2013) [*hereinafter* "*Third Plenum Decision*").

[64] Third Plenums have historically been used to announce major economic reforms, such as the adoption of reform and opening during the Third Plenary Session of the 11th National Congress of the CCP in 1978, and the endorsement of the socialist market economy following the 14th National Congress of the CCP in 1993.

[65] *Third Plenum Decision* § 13.

[66] *Decision on Issuing "China Manufacturing 2025"* (State Council, Guo Fa [2015] No. 28, issued May 8, 2015).

[67] *Made in China 2025 Notice* § 3(6).

[68] *Made in China 2025 Notice* § 2(2).

- Calls on all facets of society to mobilize behind the plan;[69]
- Seeks technological breakthroughs in key areas for economic and security purposes;
- Promotes further civil-military integration and the two-way transfer and conversion of military and civilian technologies;[70]
- Leverages state resources,[71] policy support,[72] and regulatory systems;[73]
- Continues to promote import substitution and rely on indigenous products to meet growing demand in China;[74]
- Reaffirms the leading role of backbone enterprises in technology development;[75] and
- Promotes Chinese enterprises to become dominant in the domestic market and internationally competitive in key industries.[76]

The *Made in China 2025 Notice* expressly calls for China to achieve 40% "self-sufficiency" by 2020, and 70% "self-sufficiency" by 2025, in core components and critical materials in a wide range of industries, including aerospace equipment and telecommunications equipment.[77] The *"Made in China 2025" Key Area Technology Roadmap* (*Made in China Roadmap*) sets explicit market share targets that are to be filled by Chinese producers both domestically and globally in dozens of high-tech industries.[78]

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[69] *Made in China 2025 Notice* § 1(3).
[70] *Made in China 2025 Notice* § 3(1).
[71] *Made in China 2025 Notice* § 4.
[72] *Made in China 2025 Notice* § 1(3).
[73] *See generally Made in China 2025 Notice*. This is particularly the case in quality standard regulations as described in §§ 2(1) and 3(4).
[74] *Made in China 2025 Notice* § 1(2) describes the growing demand for new equipment, consumption, and safety, while § 1(3) calls for China to "rely more on Chinese equipment and Chinese brands."
[75] *Made in China 2025 Notice* § 3(1).
[76] *Made in China 2025 Notice* § 1(3).
[77] *Made in China 2025 Notice*, Box 3.
[78] *Made in China 2025 Key Area Technology Roadmap*, (National Strategic Advisory Committee on Building a Powerful Manufacturing Nation, issued Oct. 10, 2015); *see also* U.S. CHAMBER, MADE IN CHINA 2025: GLOBAL AMBITIONS BUILT ON LOCAL PROTECTIONS 8 (2017). The *Made in China Roadmap* was released by the National Strategic Advisory Committee on Building a Powerful Manufacturing Nation (also known as the "National Manufacturing Strategy Advisory Committee") which was established pursuant to the *Made in China 2025 Notice* with responsibility to provide advice and assessments on China's major manufacturing policies. In August 2015, Vice Premier Ma Kai, who leads the Strong Manufacturing Country Leading Small Group, spoke at the Committee's first meeting and lauded its establishment as a way to "strongly promote Made in China 2025." National Strategic Advisory Committee on Building a Powerful Manufacturing Nation Established; Chaired by Ma Kai [Chinese], XINHUA (Aug. 26, 2015), *available at* http://www.xinhuanet.com/info/2015-08/26/c_134556815.htm (last visited Mar. 16, 2018). *See also Notice on the Establishment of the Strong Manufacturing Country Leading Small Group*, (General Office of the State Council, Guo Ban Fa [2015] No. 48, published June 24, 2015) (last visited March 16, 2018); and *National Strategic Advisory Committee on Building a Powerful Manufacturing Nation Established*, STATE INTELLECTUAL PROPERTY OFFICE OF THE P.R.C. (Aug. 26, 2015), *available at* http://www.sipo.gov.cn/yw/2015/201508/t20150826_1165829.html (last visited Dec. 21, 2017).

For example, indigenous new energy vehicles are to achieve an 80% domestic market share[79] with foreign sales accounting for 10% of total sales by 2025.[80] Similarly, domestically produced energy equipment is to achieve 90% domestic market share, with exports accounting for 30% of production, by 2020,[81] and renewable energy equipment with indigenous IP is to achieve 80% domestic market share by 2025.[82] In comparison to previous plans, *Made in China 2025* expands its focus to capturing global market share, not just dominance in the China market, and is part of a "broader strategy to use state resources to alter and create comparative advantage in these sectors on a global scale."[83]

The *Made in China 2025 Notice* sets forth clear principles, tasks, and tools to implement this strategy, including government intervention and substantial government, financial and other support to the targeted Chinese industries.[84] Domestic dominance and global competitiveness are to be achieved by upgrading the entire research, development, and production chain, with emphasis on localizing the output of components and finished products.[85] Foreign technology acquisition through various means remains a prime focus under Made in China 2025 because China is still catching up in many of the areas prioritized for development, and as U.S. companies are front-runners in many of these areas.[86]

China's Ministry of Industry and Information Technology (MIIT) has explained that Made in China 2025 is part of a three-step strategy for China to become a world leader in advanced manufacturing. Under the first step, by 2025, China should "approach the level of manufacturing powers Germany and Japan during the period when they realized industrialization." In the second step, China should "enter the front ranks of second tier manufacturing powers" by 2035. In the final step, China should "enter the first tier of global manufacturing powers" by 2045, at which point China will have "innovation-driving capabilities," "clear competitive advantages," and "world-leading technology systems and industrial systems."[87]

In recent years, China also issued policies specific to advanced technologies in which U.S. firms are market leaders. Information and communications technologies have been a focal point, with more and more strategies emanating from the *National Informatization Development Strategy* (2006-2020), such as the *National Integrated Circuit Industry Development Outline*, the *Internet*

[79] *Made in China 2025 Key Area Technology Roadmap* § 6.2.2.
[80] *Made in China 2025 Key Area Technology Roadmap* § 6.2.2.
[81] *Made in China 2025 Key Area Technology Roadmap* § 7.1.2.
[82] *Made in China 2025 Key Area Technology Roadmap* § 7.1.2.
[83] U.S. CHAMBER, MADE IN CHINA 2025: GLOBAL AMBITIONS BUILT ON LOCAL PROTECTIONS 6 (2017).
[84] *See* AM. CHAMBER OF COMMERCE IN SHANGHAI, *Submission*, *Section 301 Hearing* 2 (Sept. 28, 2017); NAT'L. ASS'N OF MANUFACTURERS [*hereinafter* "NAM"], *Submission, Section 301 Hearing* 3 (Sept. 28, 2017); WILEY REIN LLP, *Submission, Section 301 Hearing* 3-4 (Sept. 28, 2017); BJÖRN CONRAD, ET AL., MERCATOR INST. FOR CHINA STUDIES [*hereinafter* "MERICS"], MADE IN CHINA 2025 7, 11 (2016); and U.S. CHAMBER OF COMMERCE, MADE IN CHINA 2025: GLOBAL AMBITIONS BUILT ON LOCAL PROTECTIONS 7, 15, 18 (2017).
[85] IGCC REPORT at 121.
[86] IGCC REPORT at 121.
[87] *Made in China 2025 Explanation 6: The Manufacturing Power 'Three-Step' Strategy*, MINISTRY OF INDUSTRY AND INFORMATION TECHNOLOGY (May 19, 2015), http://www.miit.gov.cn/n1146295/n1146562/n1146655/c3780688/content.html; *see also* IGCC REPORT at 47-48.

Plus Plan, the "Broadband China" strategy and corresponding implementation plan, and the designation of next-generation information technology as a "strategic emerging industry."[88]

In addition, China recently announced that it will pursue an "innovation-driven" development strategy[89] and that it has made breakthroughs in higher-end innovation a top priority.[90] At the 19th National Congress of the CCP, held in October 2017, President Xi Jinping's remarks specifically referenced the goal of building China into a "powerful nation [*or* power] in science and technology, quality, aerospace, the Internet, and transportation" and called for "accelerating the construction of [China as] a manufacturing power" by "accelerating the development of advanced manufacturing industry" and "promoting the deep integration of the Internet, big data, and artificial intelligence with the real economy."[91]

Like the *MLP* a decade ago, newer plans such as the *Made in China 2025 Notice* and the various plans focused on information and communications technologies call for a wide array of Chinese government intervention and financial and other support designed to transform China into a world leader in technology. While these policies and practices are not necessarily new, their actual and potential effects on foreign companies and their technologies have become much more serious. As James Lewis of CSIS explained in his submission to USTR:

> What is new is that unfair trade, security and industrial policies, tolerable in a smaller developing economy, are now combined with China's immense, government-directed investment and regulatory policies to put foreign firms at a disadvantage…China now has the wealth, commercial sophistication and technical expertise to make its pursuit of technological leadership work. The fundamental issue for the U.S. and other western nations, and the IT sector is how to respond to a managed economy with a well-financed strategy to create a domestic industry intended to displace foreign suppliers.[92]

As detailed in Sections II through VI of this report, a key part of China's technology drive involves the acquisition of foreign technologies through acts, policies, and practices by the Chinese government that are unreasonable or discriminatory and burden or restrict U.S. commerce. These acts, policies, and practices work collectively as part of a multi-faceted strategy to advance China's industrial policy objectives. They are applied across a broad range of sectors, overlap in their use of policy tools (*e.g.*, the issuance of planning documents and guidance catalogues), and are implemented through a diverse set of state and state-backed actors, including state-owned enterprises.

- Section II describes the Chinese government's use of foreign ownership restrictions, such as joint venture (JV) requirements and foreign equity limitations, other foreign

[88] IGCC REPORT at 44.
[89] IGCC REPORT at 41 ("This innovation-driven development strategy (IDDS) was officially promulgated by the Chinese authorities in May 2016 and provides a 'top-level design and systemic plan' for China's innovation over next 30 years.").
[90] IGCC REPORT at xiii-xiv.
[91] Xi Jinping, Speech at the 19th CPC National Congress: 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 (Oct. 18, 2017), *available in Chinese at* http://www.gatj.gov.cn/html/6/wjjh/17/10/3257-6.html.
[92] James Lewis, CSIS, *Submission, Section 301 Hearing* 1 (Sept. 27, 2017).

investment restrictions, and the administrative licensing and approvals process to require or pressure the transfer of technology from U.S. companies to Chinese entities.

- Section III describes how U.S. companies seeking to license technologies to Chinese entities must do so on non-market-based terms that favor Chinese recipients.

- Section IV describes how the Chinese government directs and unfairly facilitates the systematic investment in, and acquisition of, U.S. companies and assets by Chinese entities, to obtain cutting-edge technologies and intellectual property and generate large-scale technology transfer in industries deemed important by state industrial plans.

- Section V describes how the Chinese government has conducted or supported cyber intrusions into U.S. commercial networks targeting confidential business information held by U.S. firms. Through these cyber intrusions, China's government has gained unauthorized access to a wide range of confidential business information, including trade secrets, technical data, negotiating positions, and sensitive and proprietary internal communications.

- Section VI describes other acts, policies, and practices of by the Chinese government to acquire foreign technologies, including measures purportedly related to national security or cybersecurity, inadequate intellectual property protection, the *Antimonopoly Law of the People's Republic of China*, the *Standardization Law of the People's Republic of China*, and talent acquisition.

II. China's Unfair Technology Transfer Regime for U.S. Companies in China

A. Introduction

The previous section of this report detailed China's technology drive and how it seeks to support prioritized industries and foster "national champions" by pursuing technology advancement through the acquisition and "re-innovation" of foreign technology.[93] One method China uses to achieve this goal is through restrictions on foreign investment, which it uses to selectively grant market access to foreign investors in exchange for commitments to transfer technology. This section will detail how China uses inbound foreign ownership restrictions, such as joint venture (JV) requirements and foreign equity limitations, and the administrative licensing and approvals process to require or pressure the transfer of technology.

1. Key Elements of China's Technology Transfer Regime

The evidence collected in this investigation from hearing witnesses, written submissions, public reports, journal articles, and other reliable sources indicates there are two key aspects of China's technology transfer regime for inbound foreign investment.

First, the Chinese government uses foreign ownership restrictions, such as formal and informal JV requirements, and other foreign investment restrictions to require or pressure technology transfer from U.S. companies to Chinese entities. These requirements prohibit foreign investors from operating in certain industries unless they partner with a Chinese company, and in some cases, unless the Chinese partner is the controlling shareholder. Second, the Chinese government uses its administrative licensing and approvals processes to force technology transfer in exchange for the numerous administrative approvals needed to establish and operate a business in China.

These two aspects of China's technology transfer regime are furthered by the non-transparent and discretionary nature of China's foreign investment approvals system. Prior to 2001, China often explicitly mandated technology transfer, requiring the transfer of technology as a *quid pro quo* for market access.[94] In 2001, China joined the WTO and committed not to condition the approval of investment or importation on technology transfer.[95] Since then, according to numerous sources, China's technology transfer policies and practices have become more implicit, often carried out through oral instructions and "behind closed doors."[96]

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[93] See Section I.C.

[94] *See, e.g.*, OFFICE OF TECH. ASSESSMENT, 100TH CONG., OTA-ISC-3401, REP. ON TECHNOLOGY TRANSFER TO CHINA (1987); OFFICE OF STRATEGIC INDUS. & ECON. SEC. BUREAU OF EXPORT ADMIN. & DFI INT'L., U.S. DEPT. COMMERCE, U.S. COMMERCIAL TECHNOLOGY TRANSFER TO THE PEOPLE'S REPUBLIC OF CHINA (Jan. 1999); THOMAS J. HOLMES ET AL., FED. RES. BANK OF MINNEAPOLIS, RES. DEP'T STAFF REP. 486, QUID PRO QUO: TECHNOLOGY CAPITAL TRANSFERS FOR MARKET ACCESS IN CHINA 3 (2015).

[95] China's accession agreements include the Protocol on the Accession of the People's Republic of China, WTO Doc. WT/L/432 (Nov. 23, 2001) [*hereinafter* "Accession Protocol"], and the Report of the Working Party on the Accession of China, WTO Doc. WT/ACC/CHN/49 (Oct. 1, 2001) [*hereinafter* "Working Party Report"]. China's technology transfer commitments are contained in Accession Protocol, General Provisions ¶ 7.3 and Working Party Report ¶ 203 (incorporated into the Accession Protocol through ¶ 1.2).

[96] *See, e.g.*, THOMAS J. HOLMES ET AL., FED. RES. BANK OF MINNEAPOLIS, RES. DEP'T STAFF REP. 486, QUID PRO QUO: TECHNOLOGY CAPITAL TRANSFERS FOR MARKET ACCESS IN CHINA 3 (2015); TAI MING CHEUNG ET AL., U.S.-

As the Information Technology and Innovation Foundation (ITIF) stated in its written submission in this investigation:

> Chinese officials are careful not to put such requirements in writing, often resorting to oral communications and informal 'administrative guidance' to pressure foreign firms to transfer technology.[97]

According to another expert, Chinese measures and practices "no longer spell out the most controversial requirements in black and white. Verbal instructions and requests to 'volunteer' one's technology are today's rules of the road."[98] Similarly, a 2014 study of China's foreign investment policies conducted for the European Union found that China has relied more heavily on opaque administrative processes to promote its technology transfer goals as international trade rules have limited its ability to *formally* codify foreign investment restraints.[99]

Another particular challenge is the complex relationship between China's private sector and the government, which provides both direct and indirect mechanisms by which the government may pressure foreign companies. In some cases, the Chinese government may directly pressure the foreign company to transfer technology, but in other cases the demand may come from a Chinese partner.[100] As discussed in more detail below, when confronted with this latter scenario, foreign companies often reasonably understand that the demand originated from the government,[101] as "business decisions [in China] are very much influenced by the public policy objectives pursued by the State and the CCP."[102] Moreover, because the Chinese partner serves as the applicant in the approval process on behalf of the JV, the Chinese partner is able, in many cases, to control the communication channels between the foreign investor and the Chinese government authorities.[103] Section IV of this report further details how the Chinese government and Chinese Communist Party (CCP) utilize a wide array of actors, regulations, and informal guidance to achieve China's industrial policy objectives.[104]

CHINA ECON. & SEC. REV. COMM'N, PLANNING FOR INNOVATION: UNDERSTANDING CHINA'S PLANS FOR TECHNOLOGICAL, ENERGY, INDUSTRIAL AND DEFENSE DEVELOPMENT 163 (2016) (citing US-CHINA BUSINESS COUNCIL [*hereinafter* "USCBC"], CHINA'S STRATEGIC EMERGING INDUSTRIES: POLICY, IMPLEMENTATION, CHALLENGES, AND RECOMMENDATIONS (Mar. 2013)); 2016 USTR REPORT TO CONGRESS ON CHINA'S WTO COMPLIANCE 104 (2017).

[97] ITIF, *Submission, Section 301 Hearing* 5-6 (Oct. 25, 2017).

[98] *See* Covington & Burling LLP, *Measures and Practices Restraining Foreign Investment in China*, prepared for the European Commission Directorate-General for Trade 63-4 (Aug. 2014) (citing to JAMES MCGREGOR, NO ANCIENT WISDOM, NO FOLLOWERS: THE CHALLENGES OF CHINESE AUTHORITARIAN CAPITALISM 38 (2012)).

[99] Covington & Burling LLP, *Measures and Practices Restraining Foreign Investment in China*, prepared for the European Commission Directorate-General for Trade 11 (Aug. 2014).

[100] USCBC, 2017 MEMBER SURVEY 9 (2017).

[101] USCBC, 2017 MEMBER SURVEY 9 (2017).

[102] EUROPEAN COMM'N, COMMISSION STAFF WORKING DOCUMENT ON SIGNIFICANT DISTORTIONS IN THE ECONOMY OF THE PEOPLE'S REPUBLIC OF CHINA FOR THE PURPOSES OF TRADE DEFENCE INVESTIGATIONS 426 (SWD(2017)483 FINAL/2, 39 (Dec. 20, 2012).

[103] U.S. CHAMBER OF COMMERCE, CHINA'S APPROVAL PROCESS FOR INBOUND FOREIGN INVESTMENT: IMPACT ON MARKET ACCESS, NATIONAL TREATMENT AND TRANSPARENCY 38-9 (Nov. 2012).

[104] *See e.g.*, Mark Wu, *The 'China, Inc.' Challenge to Global Trade Governance*, 57 HARV. INT'L L. J. 284 (May 2016) ("China's economic structure involves a complex web of overlapping networks and relationships—some formal and others informal—between the state, Party, SOEs, private enterprises, financial institutions, investment

The fact that China systematically implements its technology transfer regime in informal and indirect ways makes it "just as effective [as written requirements], but almost impossible to prosecute."[105] This difficulty is further exacerbated by the reality that foreign companies have no effective recourse in China and have been hesitant to report these informal pressures for fear of Chinese government retaliation and the potential loss of business opportunities.[106] Nevertheless, as shown below, confidential industry surveys, where companies may report their experiences anonymously, make clear that they are receiving such pressure. The lack of transparency in the regulatory environment, the complex relationship between the State and the private sector, and concerns about retaliation have enabled China's technology transfer regime to persist for more than a decade.[107]

In the course of this investigation, certain Chinese trade associations and law firms representing Chinese interests defended China's technology transfer regime, arguing that technology transfer decisions are products of "voluntary agreement" without "government intervention."[108] They also asserted that JV and technology transfer arrangements are distinct from broader national industrial policies, and that domestic and foreign companies can choose when and whether to establish business partnerships.[109] Further, they stated that no Chinese laws or regulations explicitly force foreign investors to transfer technology, and that the central government has instructed local governments not to require technology transfer.[110]

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vehicles, trade associations, and so on."). *See also* EUROPEAN COMM'N, COMMISSION STAFF WORKING DOCUMENT ON SIGNIFICANT DISTORTIONS IN THE ECONOMY OF THE PEOPLE'S REPUBLIC OF CHINA FOR THE PURPOSES OF TRADE DEFENCE INVESTIGATIONS 426 SWD(2017)483 FINAL/2, 13 (Dec. 20, 2012) ("Therefore, even though today the Chinese economy is to some extent made up of non-state actors…the decisive role of the State in the economy remains intact, with tight interconnections between government and enterprises (going far beyond the boundaries of SOEs) in place.").

[105] ITIF, STOPPING CHINA'S MERCANTILISM: A DOCTRINE OF CONSTRUCTIVE, ALLIANCE-BACKED CONFRONTATION 18 (Mar. 2017).

[106] See U.S. CHAMBER OF COMMERCE, CHINA'S APPROVAL PROCESS FOR INBOUND FOREIGN INVESTMENT: IMPACT ON MARKET ACCESS, NATIONAL TREATMENT AND TRANSPARENCY 2, 40 (Nov. 2012). ITIF's submission in this investigation also illustrates how the threat of Chinese government retaliation leads U.S. companies to avoid seeking redress. For example, the ITIF submission provides that, "[a] top executive at a large U.S. plant biotechnology firm told ITIF recently of its experience in China. China was dumping the chemicals for a particular herbicide the U.S. company sold on global markets. The company confronted the Chinese agricultural minister with fact and said that it was planning to bring a complaint before the WTO. The Chinese minister simply responded that if the case were brought, the company would lose access to the Chinese market. Needless to say, the U.S. firm did not bring the case, even as it continued to lose global market share and jobs in the U.S." ITIF, *Submission, Section 301 Hearing* 6 (Oct. 25, 2017).

[107] *See, e.g.*, U.S. CHAMBER OF COMMERCE, CHINA'S APPROVAL PROCESS FOR INBOUND FOREIGN INVESTMENT: IMPACT ON MARKET ACCESS, NATIONAL TREATMENT AND TRANSPARENCY 38-9 (Nov. 2012); EUROPEAN CHAMBER OF COMMERCE, CHINA MANUFACTURING 2025 15-16 (2017) ("For example, a longstanding feature of China's industrial policy is that foreign companies are often pushed to transfer technology as the price of market entry…Forced technology transfer is nothing new to FIEs. However, it is now an increasing requirement for more advanced technologies to be shared.").

[108] *See generally*, CHINA CHAMBER OF COMMERCE FOR IMPORT & EXPORT OF MACHINERY & ELECTRONIC PRODUCTS [*hereinafter* "CCCME"], *Submission, Section 301 Hearing* 6 (Oct. 20, 2017); CHINA CHAMBER OF INT'L. COMMERCE [*hereinafter* "CCOIC"], *Submission, Section 301 Hearing* 12 (Sept. 28, 2017).

[109] CCCME *Submission, Section 301 Hearing* 8-9 (Sept. 27, 2017).

[110] CCOIC, *Submission, Section 301 Hearing* 124 (Sept. 28, 2017).

USTR has carefully considered these arguments and finds them unsupported by the evidence and unconvincing. As set forth in detail below, the weight of the evidence shows that China uses foreign ownership restrictions, including joint venture requirements and equity limitations, and other investment restrictions to require or pressure technology transfer from U.S. companies to Chinese entities. The evidence further establishes that China uses discretionary and non-transparent administrative reviews and licensing processes to pressure technology transfer or force the unnecessary disclosure of sensitive technical information.

2. A Persistent Problem for U.S. Business

Due to the fact that much of China's technology transfer regime occurs "behind closed doors," confidential surveys provide an important source of information on how the regime works in practice. These surveys make clear that China's technology transfer regime is a persistent problem for U.S companies in China, particularly in high-tech sectors targeted by the Chinese government.

According to the US-China Business Council's (USCBC) most recent member survey, 19 percent of responding companies stated that in the last year they had been directly asked to transfer technology to China.[111] Of these, 33 percent said that the request came from a central government entity and 25 percent that it came from the local government.[112]

Annual surveys conducted by the American Chamber of Commerce in China (AmCham China) reflect a similar problem. For example, in a 2013 survey of 325 U.S. companies in various sectors, more than one-third of respondents (35 percent) reported that they were concerned about "de facto technology transfer requirements as a condition for market access."[113] In a 2017 survey, 36 percent of respondents cited "reducing the need for us to engage in technology transfer" as one factor that would cause them to increase their investment levels in China.[114]

Other evidence indicates that this problem may be even more widespread than these surveys suggest. For example, one participant testified in the hearing for this investigation that while he was aware of these survey results, his own research indicated through "many, many private interviews with companies…*we did not find a single instance in which companies had not felt pressure and in many cases caved into the pressure to share technology.*"[115]

[111] USCBC, 2017 MEMBER SURVEY 9 (2017).
[112] USCBC, 2017 MEMBER SURVEY 9 (2017) (67 percent said the request was made directly by a Chinese company during the negotiations. The survey states, "[t]he request most frequently comes from a Chinese partner, rather than a government entity. While some of these requests may be a normal part of commercial negotiations, in many cases the hand of the Chinese government is behind these requests.").
[113] THOMAS J. HOLMES ET AL. FED. RES. BANK OF MINNEAPOLIS, RES. DEP'T STAFF REP. 486, QUID PRO QUO: TECHNOLOGY CAPITAL TRANSFERS FOR MARKET ACCESS IN CHINA 8 (2015) (citing AM. CHAMBER OF COMMERCE IN CHINA, CHINA BUSINESS CLIMATE SURVEY REPORT (2013)).
[114] AMCHAM CHINA, 2018 CHINA BUSINESS CLIMATE SURVEY REPORT 44 (2017). Of these, 22 percent stated that this reduction would be somewhat significant to their investment decision, 9 percent as very significant and 5 percent as extremely significant.
[115] Richard Ellings, COMMISSION ON THE THEFT OF INTELLECTUAL PROPERTY [*hereinafter* "IP Commission"], *Testimony*, *Section 301 Hearing*, 37 (Oct. 10, 2017) (emphasis added).

Moreover, in sectors that are the focus of the Chinese government's industrial policy initiatives, the pressure on U.S. companies to form JVs and transfer technology is particularly intense. For example, according to AmCham China's 2013 survey, 42 percent of respondents in advanced technology sectors (including aerospace, automotive, chemical, and information technology) were concerned about "de facto technology transfer requirements as a condition for market access."[116] Only 3 percent of surveyed companies reported that these technology transfer requirements were decreasing, while 37 percent reported they were increasing and 26 percent that they were staying the same.[117]

A 2017 survey of the U.S. integrated circuit design and manufacturing industry conducted by the Department of Commerce's Bureau of Industry and Security yielded similar results: 25 U.S. integrated circuit companies responded that they will have to form JVs with Chinese entities and transfer intellectual property to obtain or maintain access to the China market.[118] In 2017, these 25 integrated circuited companies accounted for more than $25 billion in total sales and over a quarter (26 percent) of all integrated circuits made and sold in the United States.[119]

U.S. companies are not alone in their concerns about China's technology transfer regime. According to a 2011 public consultation process conducted by the EU, the top barriers to investment in China included technology transfer requirements; JV requirements; foreign ownership limitations; prohibitions or limitations on the scope of business investments; licensing requirements/procedures; and regulatory approval procedures.[120]

B. Foreign Ownership Restrictions as Used in China's Technology Transfer Regime

Foreign ownership restrictions such as JV requirements[121] and foreign equity limitations are a cornerstone of China's technology transfer regime. China's *Catalogue of Industries for Guiding Foreign Investment* (*Foreign Investment Catalogue*), and other rules and regulations, require U.S. companies seeking to invest in certain industry sectors to enter into cooperative

[116] AMCHAM CHINA, 2013 CHINA BUSINESS CLIMATE SURVEY REPORT 10 (2013).
[117] *Id*. ("N/A or don't know" responses omitted).
[118] U.S. DEP'T OF COMMERCE, BUREAU OF INDUS. & SECURITY, ASSESSMENT OF THE U.S. INTEGRATED CIRCUIT DESIGN AND MANUFACTURING INDUSTRY (forthcoming).
[119] U.S. DEP'T OF COMMERCE, BUREAU OF INDUS. & SECURITY, ASSESSMENT OF THE U.S. INTEGRATED CIRCUIT DESIGN AND MANUFACTURING INDUSTRY (forthcoming).
[120] EUROPEAN COMM'N, IMPACT ASSESSMENT REPORT ON THE EU-CHINA INVESTMENT RELATIONS, SWD (2013) 185final 12 90, 95 (May 23, 2013).
[121] The three most common corporate forms for foreign-invested entities (FIEs) in China are contractual joint ventures, equity joint ventures, and wholly foreign-owned enterprises. Each of these forms has different requirements and restrictions under Chinese law. *See generally Law of the People's Republic of China on Chinese-Foreign Contractual Joint Ventures* (adopted at the First Session of the Seventh NPC on Apr. 13, 1988, amended by the 18th Session of the Standing Committee of the Ninth NPC on Oct. 31, 2000, further amended Sep. 3, 2016, in Executive Order No. 51, and Nov. 7, 2016, in Executive Order No. 57, and Nov. 4, 2017, in Executive Order No. 81); *Law of the People's Republic of China on Chinese-Foreign Equity Joint Ventures* (adopted at the Second Session of the Fifth NPC on July 1, 1979, amended Apr. 4, 1990, in Executive Order No. 27, further amended Mar. 15, 2001, in Executive Order No. 48, and Sept. 3, 2016, in Executive Order No. 51); *Law of the People's Republic of China on Wholly Foreign-Owned Enterprises* (adopted by NPC on Apr. 12, 1986, amended Oct. 31, 2000, further amended Sept. 3, 2016).

arrangements with Chinese partners.[122] According to submissions and testimony in this investigation, China's imposition of these requirements precludes U.S. companies from entering the market on their own terms and lays the foundation for the Chinese government to require or pressure technology transfer. For example, the U.S. Chamber of Commerce states in its written submission that:

> As companies negotiate the terms of the joint venture, the foreign side may be asked—or required—to transfer its technology in order to finalize the partnership. Especially in instances where the Chinese partner is a state-owned or state-directed company, foreign companies have limited leverage in the negotiation if they wish to access the market. Although this type of technology transfer may not be explicitly mandated in a Chinese law or regulation, it is often an unwritten rule for market access.[123]

The USCBC similarly states that JV and other investment restrictions necessarily create an "unbalanced negotiation" with respect to technology transfer:

> Chinese companies are in an inherently stronger position since their participation is required to form a joint venture or to provide the remaining equity in restricted sectors. As a consequence, a request for technology transfer made by a Chinese party in a business negotiation can reasonably be interpreted by foreign parties as a requirement for the deal to be concluded.[124]

The National Association of Manufacturers (NAM) stressed the negative effects of China's technology transfer regime on U.S. companies' global competitiveness:

> This tilting of the playing field leaves manufacturers with untenable choices: they must either transfer their technology to the new China-based joint venture, or they must cede the world's fastest-growing market to foreign competitors, thus harming both their short-term growth and their long-term competitiveness. [125]

1. The Foreign Investment Catalogue and Technology Transfer

China maintains a detailed system for administering inbound foreign investment. The *Foreign Investment Catalogue* is a starting point for analyzing the restrictions on foreign investment in a particular industry, and is an important element of China's technology transfer regime.[126] First

[122] *Catalogue of Industries for Guiding Foreign Investment (2017 Amendment)* (NDRC, MOFCOM, Order No. 4, issued June 28, 2017).
[123] U.S. CHAMBER OF COMMERCE, *Submission, Section 301 Hearing* 15 (Oct. 3, 2017).
[124] USCBC, *Submission, Section 301 Hearing* 6-7 (Sept. 28, 2017).
[125] NAT'L. ASS'N OF MANUFACTURERS [*hereinafter* "NAM"], *Submission, Section 301 Hearing* 3 (Sept. 28, 2017). *See also* Lee Branstetter, *Submission, Section 301 Hearing* 2, 3 (Sept. 28, 2017) (U.S. companies are forced to choose between protecting their valuable technologies or losing access to a critical market. If they choose to forego the Chinese market to protect their valuable intellectual property, their foreign competitors exploit the market opportunity, thereby inhibiting U.S. companies' global competitiveness in the long-run).
[126] In addition to the *Foreign Investment Catalogue*, there are thousands of other regulations, rules, and regulatory documents related to foreign investment that are issued by central government authorities, as well as a countless local government regulations and restrictions that must be consulted to fully understand the restrictions foreign investors face in any particular sector. *See* Covington & Burling LLP, *Measures and Practices Restraining Foreign*

issued in 1995, and most recently revised in 2017, the *Foreign Investment Catalogue* has historically divided industries into three basic categories: (1) "encouraged," (2) "restricted," and (3) "prohibited."[127] Industries not listed in one of these categories generally are considered to be "permitted."

Different categories of investment generally lead to different degrees of approval scrutiny or application requirements. For example, foreign investments in "restricted" industries are subject to stricter government review and a case-by-case administrative approval process.[128] "Encouraged" industries benefit from special preferences and from a file-for-the record system of approvals, but can still be subject to investment restrictions.[129] Moreover, even for "encouraged" sectors, stakeholders have expressed concerns, based on past experiences, that once China's economy has achieved self-sufficiency in a particular industry and closed the technology gap, it will impose additional requirements or restrictions in these industries.[130]

Since its inception, the *Foreign Investment Catalogue* has required that investments in certain sectors take the form of a JV, that the proportion of foreign equity investment in the JV be capped at a particular level, that the Chinese party hold a controlling interest, and imposed other restrictions.[131] These arrangements may take different forms including: (i) a requirement that the U.S. company enter into an equity joint venture (EJV) or contractual joint venture (CJV) with a Chinese party; (ii) a requirement that Chinese parties must be controlling shareholders or hold

Investment in China, prepared for the European Commission Directorate-General for Trade 5 (Aug. 10, 2014) (reviewing 39 central government agencies that promulgated 137,328 measures affecting foreign investment that were in effect at the time of the survey).

[127] In 2017, a "negative list" approach was adopted under which the catalogue was divided between a list of "encouraged" sectors and a "Foreign Investment Access Negative List" (Negative List), which consisted of three types of industries: (a) "restricted" (b) "prohibited" and (c) certain "encouraged" industries subject to limitations on shareholder structure or other limitations. This approach is fundamentally similar to previous catalogues and merely re-categorizes the restricted and prohibited industries under the rubric of a Negative List. Further, the Negative List is not a comprehensive identification of all foreign investment restrictions as it is based on earlier catalogues, which as described above, do not comprehensively list all investments restrictions that may apply to foreign investors in China. *Foreign Investment Catalogue*.

[128] *See* WTO Secretariat, *Trade Policy Review: China*, ¶2.45-¶2.76, WT/TPR/S/300 (May 27, 2014).

[129] Projects in the "encouraged" category" may be eligible for certain preferential policies, such as customs duty preferences on the importation of certain capital goods. *See e.g*, *General Administration of Customs Announcement On Implementing Issues Regarding Foreign Investment Industry Guiding Catalogue (amended 2017)* §1 (GAC, 2017 Announcement No. 30, issued July 17, 2017). Encouraged industries subject to foreign equity restrictions are listed twice, once under the encouraged category and then again under the restricted category. *Foreign Investment Catalogue*.

[130] U.S. CHAMBER, MADE IN CHINA 2025: GLOBAL AMBITIONS BUILT ON LOCAL PROTECTIONS 27 (2017); EUROPEAN CHAMBER OF COMMERCE, CHINA MANUFACTURING 2025 15 (2017). *See also* TAI MING CHEUNG ET AL., U.S.-CHINA ECON. & SEC. REV. COMM'N, PLANNING FOR INNOVATION: UNDERSTANDING CHINA'S PLANS FOR TECHNOLOGICAL, ENERGY, INDUSTRIAL AND DEFENSE DEVELOPMENT 166 (2016) ("In cases where China has no bargaining power but wants the technology, it will allow 100 percent foreign ownership since that is the only choice. An example of an 'encouraged' investment with no JV or equity requirements is 'IC design, manufacturing of 28 nm and below large-scale digital IC, manufacturing of 0.11-micron and below analog and mixed signal IC, manufacturing of MEMS and compound semiconductor IC, and BGA, PGA, CSP, MCM, and other advanced packaging and testing.' This category does not specify any joint venture or Chinese controlled entity requirement.").

[131] *See* TAI MING CHEUNG ET AL., U.S.-CHINA ECON. & SEC. REV. COMM'N, PLANNING FOR INNOVATION: UNDERSTANDING CHINA'S PLANS FOR TECHNOLOGICAL, ENERGY, INDUSTRIAL AND DEFENSE DEVELOPMENT 166 (2016); *Foreign Investment Catalogue*.

the majority of shares in the venture; and (iii) other types of restrictions on foreign ownership or control. [132]

Although reforms to China's foreign investment regime have enabled other forms of investments, including wholly-owned foreign enterprises (WFOEs) in certain sectors, ownership restrictions continue to operate in many key sectors important to foreign investors, including in the services, agriculture, extractive industries, and manufacturing sectors.

Currently, 35 sectors remain in the "restricted" category of the *Foreign Investment Catalogue*.[133] The category includes, *inter alia*, the following sectors, which are subject to equity limits and/or local partner requirements (see Table II.1).

Table II.1: Examples of Equity Restrictions and Local Partner Requirements in China's 2017 *Foreign Investment Catalogue*

Sector	Summary of Requirements
Selection and cultivation of new varieties of crops and production of seeds	Chinese party must be the controlling shareholder.
Exploration and development of oil and natural gas	Limited to CJV or EJV
Manufacturing whole automobiles	Chinese party's investment cannot be lower than 50 percent, and the same foreign investor may establish no more than two JVs in China for the same kind of automobiles, subject to certain exceptions.
Manufacturing commercial aircraft	Chinese party must be the controlling shareholder.
Construction and operation of nuclear power plants	Chinese party must be the controlling shareholder.
Value-added Telecommunications Services	Foreign investment cannot exceed 50 percent, excluding e-commerce, and is limited to WTO commitments. Note that China classifies a broad range of internet and technology-related services under this sector.
Basic telecommunications services	Chinese party must be the controlling shareholder and foreign investment is limited to WTO commitments.
Banks	Foreign financial institution investment cannot exceed 20 percent or 25 percent depending on how the investment is structured.
Medical institutions	Limited to CJV or EJV.
Surveying and mapping companies	Chinese party must be the controlling shareholder.

Source: Foreign Investment Catalogue (*2017 Amendment*).

By promoting foreign investment in certain industries while limiting or altogether prohibiting investment in others, the Chinese government uses its foreign investment regime to channel

[132] *Foreign Investment Catalogue*.
[133] Sectors in the "restricted" category are described in Appendix D to this Report.

foreign investment into industries of its choosing to support policy objectives.[134] For example, the U.S. Chamber of Commerce in a March 2017 report on the *Made in China 2025* initiative, notes that foreign investment restrictions impact companies in the plan's targeted industries:

> These restrictions either block opportunities for foreign companies to operate in the market, or, in some cases, create a de facto technology transfer requirement to the Chinese partner as a precondition for market access.[135]

These technology transfer pressures occur not only in the high-tech sectors targeted by *Made in China 2025* but also in more traditional sectors in which China has sought to obtain advanced technologies through the imposition of JV requirements. The shale gas industry provides one example of how the *Foreign Investment Catalogue* is used to channel investment to support industrial policy objectives. In this industry, China seeks to acquire foreign technologies in order to unlock the potential of its shale reserves located in geologically complex areas, and has explicitly stated in its industrial policies that "cooperation" with foreign companies should be used as one way to introduce this technology to China. For example, China's *Shale Gas Development Plan (2011-2015)* encourages international cooperation to "absorb and emulate mature advanced technologies from abroad and create core technologies for exploration and development that possess 'Chinese characteristics.'"[136] In addition, China's *Shale Gas Industrial Policy* reiterates that China will encourage domestic enterprises to engage with foreign enterprises "that possess advanced shale gas technology" in technical cooperation in order to "introduce"[137] shale gas technology and operational experience.[138] Accordingly, oil and natural gas exploration and development continue to be subject to a JV requirement in the *Foreign Investment Catalogue*.[139] As discussed in more detail in Section V.B of this report, China has also used cyber intrusions to obtain technology and sensitive commercial information from U.S. companies operating in the oil and gas sectors, underscoring how the Chinese government uses a range of tools at its disposal to achieve its industrial policy objectives and to effect the transfer of technology from U.S companies.

Foreign companies typically prefer to invest in China through a WFOE, rather than a JV, if the option is available. This preference often stems from concerns about the loss of control over their valuable technologies.[140] In a survey of 1,000 companies conducted on behalf of the EU, only 12 percent of respondents reported they would have chosen their current JV structure in the

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[134] USTR, 2016 USTR REPORT TO CONGRESS ON CHINA'S WTO COMPLIANCE 103-4 (2017); *see also* U.S. CHAMBER, MADE IN CHINA 2025: GLOBAL AMBITIONS BUILT ON LOCAL PROTECTIONS 26 (2017); EUROPEAN CHAMBER OF COMMERCE, CHINA MANUFACTURING 2025 15 (2017).

[135] U.S. CHAMBER, MADE IN CHINA 2025: GLOBAL AMBITIONS BUILT ON LOCAL PROTECTIONS 26 (2017).

[136] *Notice on Issuing the Shale Gas Development Plan (2011-2015)*, Sec. 5(1)2 (NDRC, MoF, MLR, NEA, Fa Gai Neng Yuan [2012] No. 612, issued Mar. 13, 2012).

[137] *See* Section I.C for an explanation of China's IDAR strategy and the concept of "introducing" technology from abroad.

[138] *Shale Gas Industry Policy*, art. 9 (NEA, 2013 Order No. 5, issued Oct. 22, 2013). The policy at art. 10 also encourages enterprises to participate in shale gas exploration and development through joint ventures.

[139] *Foreign Investment Catalogue*.

[140] INTERCHINA CONSULTING, ESTABLISHMENT OF A JOINT VENTURE IN CHINA 5 (June, 2011) ("Many foreign investors have discovered through hard found experience that one of the greatest exposures to IPR infringement is by having a Chinese partner."); EUROPEAN COMM'N, IMPACT ASSESSMENT REPORT ON THE EU-CHINA INVESTMENT RELATIONS, SWD (2013) 185final 12 95-6 (May 23, 2013).

absence of JV requirements. Most (52 percent) would have preferred a fully-owned business and 32 percent wanted a greater ownership stake in the JV than permitted.[141]

The risk of technology loss is exacerbated when the Chinese partner in the JV operation maintains other factories and workers that compete with the JV operation.[142] The employees of the JV often are recruited from, or have ties to, the Chinese partner's existing operations.[143] Under these conditions, there is a considerable likelihood that the JV's technology and know-how will leak, either through "unintentional osmosis or through intentional diversion."[144] In contrast, a WFOE has more control over its operations and can sometimes minimize operational decisions that create technology risks.[145] Nevertheless, WFOEs also face various technology-related pressures from the Chinese government, as part of China's numerous administrative review and licensing processes, as described in more detail below.[146]

In this investigation, the Intellectual Property Law Section of the American Bar Association noted that many U.S. companies—including American Superconductor Corporation (AMSC), Corning, DuPont, Eli Lilly, and General Motors—have sued for the misappropriation of trade secrets by JV partners, employees and others in Chinese courts.[147] The U.S. International Trade Commission also has been a frequent forum for U.S. companies asserting trade secret misappropriation claims based on conduct by JV partners and others in China, including SI Group, Fellowes, and Manitowoc Company.[148]

In response to these concerns, defenders of China's technology transfer regime argue that China has opened its economy to foreign investment in several respects, such as the introduction of the "Negative List" system, in which foreign investment in all sectors is permitted unless it is expressly included on a negative list.[149] Despite these changes, substantial restrictions on foreign

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[141] EUROPEAN COMM'N, IMPACT ASSESSMENT REPORT ON THE EU-CHINA INVESTMENT RELATIONS, SWD (2013) 185final 12 13 (May 23, 2013).

[142] OWEN D. NEE, JR., SHAREHOLDER AGREEMENTS AND JOINT VENTURES IN CHINA 583 (Thomson Reuters ed, 2016); *see also* INTERCHINA CONSULTING ESTABLISHMENT OF A JOINT VENTURE IN CHINA 5 (June, 2011); ITIF *Submission, Section 301 Hearing* 10 (Oct. 25, 2017) (stating that, "[a]nother way China acquires technology and intellectual property is to steal it.").

[143] OWEN D. NEE, JR., SHAREHOLDER AGREEMENTS AND JOINT VENTURES IN CHINA 583 (Thomson Reuters ed, 2016).

[144] OWEN D. NEE, JR., SHAREHOLDER AGREEMENTS AND JOINT VENTURES IN CHINA 583 (Thomson Reuters ed, 2016).

[145] OWEN D. NEE, JR., SHAREHOLDER AGREEMENTS AND JOINT VENTURES IN CHINA 583 (Thomson Reuters ed, 2016).

[146] *See infra* Section II(C).

[147] AM. BAR ASS'N SECTION OF IP LAW [*hereinafter* "ABA Section"], *Submission, Section 301 Hearing* 3 (Sept. 27, 2017). *See also* Daniel C.K. Chow, *Navigating the Minefield of Trade Secrets Protection in China*, 47 VAND. J. TRANSNAT'L L., 1007, 1009 (2014); Paul Ranjard, Benoit Misonne, *Study 12: Exploring China's IP Environment, in* Study on the Future Opportunities and Challenges of EU-China Trade and Investment Relations 15 (2007). (describing a "common scenario" of IP violations by Chinese JV partners with competing businesses that use technology obtained from the foreign JV partner).

[148] ABA IP Law SECTION, *Submission, Section 301 Hearing* 3 (Sept. 27, 2017).

[149] *Opinions on the Implementation of the Market Access Negative List System* § 1(1), (State Council, Guo Fa [2015] No. 55, issued Oct. 2, 2015, effective from Dec. 1, 2015 to Dec. 31, 2017); CCOIC, *Submission, Section 301 Hearing* 33 (Sept. 26, 2017); CHINA INTELLECTUAL PROPERTY LAW [*hereinafter* "CIPL"], *Submission, Section 301 Hearing* 40 (Sept. 27, 2017).

investment remain. First, China continues to use an approach that is fundamentally similar to previous versions of the *Foreign Investment Catalogue*, in which many "restricted" and "prohibited" investments are included under the "Negative List".[150] During the period of this investigation, key sectors remain subject to JV and other investment restrictions.[151] Moreover, even if China dropped its JV and other foreign ownership requirements, foreign investors would still continue to face pressures to transfer technology or disclose technical information through China's licensing and administrative approvals regime (detailed in Section II.C, below).

2. Illustrative Examples of China's Use of Investment Restrictions to Pressure Technology Transfer

While companies from the United States and other advanced economies have long faced JV requirements and other limits on control over their technologies in China, the most intensive technology transfer pressures often arise in sectors that align with the Chinese government's industrial policy objectives. For example, studies commissioned by the European Commission have found that in key sectors, including machinery and environmental technologies, European companies have to enter into partnerships with Chinese state-owned enterprises (SOEs) and acquiesce to technology transfer demands to access the market or bid on government projects.[152] Highlighted below for purposes of illustration are examples of technology transfer requirements or pressures imposed by the Chinese government in the automotive and aviation sectors.

a) Auto Manufacturing and New Energy Vehicles

When China initially opened the auto manufacturing sector to foreign investment, its goal was to use the transfer of technology from U.S. and other foreign auto makers to modernize SOEs in the sector.[153] To accomplish this goal, China has long required U.S. and other foreign car makers to enter into JVs where non-Chinese ownership is capped at 50 percent.[154]

China's strategy of leveraging the technology of foreign automakers through JV requirements to grow its indigenous innovation capability has been called the "Changan Model" by Chinese

[150] U.S. CHAMBER OF COMMERCE, *Submission, Section 301 Hearing* 14 (Oct. 3, 2017) (China's latest changes to its investment regime have provided, "…little in the way of comprehensive and meaningful openings to foreign investors.").
[151] *See* Appendix D.
[152] Joachim Ihrcke, Krystina Becker, *Study 1: Machinery, in* Study on the Future Opportunities and Challenges of EU-China Trade and Investment Relations 33 (2007); Celine Louche, Angus Lambkin Padraig Oliver, *Study 11: Sustainable Technologies and Services, in* Study on the Future Opportunities and Challenges of EU-China Trade and Investment Relations 66 (2007).
[153] 2015 U.S.-CHINA ECON. & SEC. REV. COMM'N ANN. REP. 84-5 (2015); KATHERINE KOLESKI, U.S.-CHINA ECON. & SEC. REV. COMM'N, CHINA'S 13TH FIVE-YEAR PLAN 153 (Feb. 14, 2017); *see also* USITC, INV. NO. 332-519, CHINA: EFFECTS OF INTELLECTUAL PROPERTY INFRINGEMENT AND INDIGENOUS INNOVATION POLICIES ON THE U.S. ECONOMY 5-33 (2011).
[154] 2015 U.S.-CHINA ECON. & SEC. REV. COMM'N ANN. REP. 84 (2015); KATHERINE KOLESKI, U.S.-CHINA ECON. & SEC. REV. COMM'N, CHINA'S 13TH FIVE-YEAR PLAN 153 (Feb. 14, 2017); *see also* USITC, INV. NO. 332-519, CHINA: EFFECTS OF INTELLECTUAL PROPERTY INFRINGEMENT AND INDIGENOUS INNOVATION POLICIES ON THE U.S. ECONOMY 5-33 (2011).

government entities.[155] This model refers to the 50/50 JV entered into by a U.S. auto manufacturer and Chongqing Changan Automobile (Changan), a state-owned company ultimately controlled by the State-owned Assets Supervision and Administration Commission of the State Council (SASAC) through China South Industries Group.[156] A research division under the State Council lauded the "Changan Model" as an example of China's Introduce, Digest, Absorb, Re-innovate (IDAR) approach[157] to technology development through the "introduction of technology and the digestion and re-innovation of technology."[158] According to an article on the SASAC website, the model's advantages include Changan's control of the JV's core production technology, the development of domestic innovation capabilities through control of that core technology, and the gradual upgrading of the domestic brand.[159]

As China gained advanced auto manufacturing technology through JVs and sought to promote its own domestic brands, foreign automakers have found their industry placed in increasingly restrictive sections of the *Foreign Investment Catalogue*. Thus, the *Foreign Investment Catalogue* "encouraged" the "manufacturing of complete automobiles" until 2010, "permitted" it from 2011-2014, and "restricted" it in 2015, as China's domestic capability grew.[160]

Technology transfer pressures have intensified as China has sought to develop expertise in the manufacture of new energy vehicles (NEVs), which includes plug-in hybrids, electric batteries and fuel cell vehicles. The NEV sector was specifically targeted by the Chinese government in 2010 following the release by the State Council of the *Decision on Accelerating the Development of Strategic Emerging Industries,* which designated NEVs as one of the seven "strategic emerging industries" selected for accelerated development. In 2012, the State Council released the *Energy-Saving and New-Energy Automotive Industry Development Plan (2012-2020)* (*NEV Plan*),[161] which set forth an industrial development blueprint for NEVs calling for the

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[155] "*Changan Model" Radiates at the China Auto Industry Indigenous Innovation Summit* [Chinese], SASAC, Nov. 7, 2006. http://www.sasac.gov.cn/n2588025/n2588124/c3877435/content.html (last visited Nov. 29, 2017).

[156] CHONGQING CHANGAN AUTOMOBILE CO., LTD. 2016 ANNUAL REPORT 42 [Chinese] (2016), *available at* http://www.chinasouth.com.cn/1144.html (last visited Dec. 2, 2017). China Southern Industries Group is a major Chinese arms manufacturer. SASAC is a part of the Chinese government, directly under the State Council, tasked with overseeing China's SOEs.

[157] *See* Section I.C for an explanation of China's IDAR strategy.

[158] *Development Research Center of the State Council: Changan Innovation Model Evokes Interest* [Chinese], CHINA ENTERPRISE CONFEDERATION / CHINA ENTERPRISE DIRECTORS ASSOCIATION, Nov. 14, 2006, *available at* http://info.cec-ceda.org.cn/jx/pages/20061114_32467_6_2.html (last visited Nov. 29, 2017).

[159] *Changan Model" Radiates at the China Auto Industry Indigenous Innovation Summit* [Chinese], SASAC, Nov. 7, 2006, *available at* http://www.sasac.gov.cn/n2588025/n2588124/c3877435/content.html (last visited Nov. 29, 2017).

[160] *See* 2015 U.S.-CHINA ECON. & SEC. REV. COMM'N ANN. REP. 85 (2015). *See also Catalogue of Industries for Guiding Foreign Investment* (National Planning Commission, National Economic and Trade Commission, Ministry of Foreign Economics and Trade, Order No. 21, issued Mar. 4, 2002); *Catalogue of Industries for Guiding Foreign Investment* (amended 2004) (NDRC, MOFCOM Order No. 24, issued Nov. 30, 2004); *Catalogue of Industries for Guiding Foreign Investment* (amended 2007) (NDRC, MOFCOM Order No. 57, issued Oct. 31, 2007); *Catalogue of Industries for Guiding Foreign Investment* (amended 2011) (NDRC, MOFCOM Order No. 12, issued Dec. 24, 2011); *Catalogue of Industries for Guiding Foreign Investment* (amended 2015) NDRC, MOFCOM Order No. 22, issued Mar. 10, 2015); *Catalogue of Industries for Guiding Foreign Investment* (amended 2017) (NDRC, MOFCOM, Order No. 4, issued June 28, 2017).

[161] *Energy-Saving and New-Energy Automotive Industry Development Plan (2012-2020)* § 6(2)(2) (State Council, Guo Fa [2012] No. 22, issued June 28, 2012) [*hereinafter* "*NEV Plan*"].

establishment of numerous regulations and subsidy programs to support domestic R&D, manufacturing, and utilization of NEVs. The *NEV Plan* sets a target of achieving cumulative production and sales volume of 5 million NEV units by 2020.[162] A "basic principle" of the *NEV Plan* is to "expedite the formation of technology, standards, and brands using indigenous intellectual property."[163] China's focus on developing its domestic capacity to produce NEVs was recently reconfirmed with the sector's inclusion in the *Made in China 2025 Key Area Technology Roadmap* (*Made in China 2025 Roadmap*), which calls for, *inter alia*, indigenous NEVs to comprise 70 percent of domestic NEV sales by 2020 and 80 percent by 2025.[164]

Foreign NEV producers seeking to sell their products in China face pressure to produce their automobiles in China with a JV partner rather than exporting them to China, due to a range of Chinese policies, including steep import tariffs[165] and subsidies available for domestically-produced NEVs,[166] as well as a new NEV credit system.[167] These pressures to produce NEVs locally work in tandem with China's JV requirements to elicit the transfer of technology from foreign automakers to domestic Chinese automakers.

Specifically, market access rules issued in 2009 by the Ministry of Industry and Information Technology (MIIT), which applied to all enterprises that manufactured NEVs in China for use in China[168] and were a condition to be eligible for certain NEV preference programs,[169] required that NEV JVs hold intellectual property rights in one of three key NEV technologies: batteries, drive systems, or control systems.[170] In effect, this requirement forced foreign NEV

[162] *NEV Plan* § 3(2.1).
[163] *NEV Plan* § 2(2).
[164] *Made in China 2025 Key Area Technology Roadmap* (National Strategic Advisory Committee on Building a Powerful Manufacturing Nation, issued Oct. 2015).
[165] Imported passenger vehicles are generally subject to a 25 percent tariff rate. *See Customs Import and Export Tariff of the People's Republic of China* (2017).
[166] The Chinese government provides subsidies to NEV manufacturers in connection with their sales of NEVs to consumers in China. In the current phase of the program, the central government subsidy amount is based primarily upon vehicle range and is capped at CNY 44,000 ($6,500) per vehicle. In addition, local governments are allowed to offer a subsidy of up to 50 percent of the value of the central government subsidy. *Notice on Adjusting Fiscal Subsidy Policies for Promoting the Expanded Use of NEVs* (MOF, MOST, MIIT, NDRC, Cai Jian [2016] No. 958, Dec. 30, 2016). Eligibility requirements for these subsidies are described below in more detail.
[167] The NEV credit system requires all automakers selling vehicles in China to generate, by 2018, a certain portion of their production and imports from NEVs in order to generate "NEV credits" or be subject to penalties. *See Provisional Measures for Administration of the NEV Fuel Use and Credit System*, art 36 (MIIT, MOF, MOFCOM, General Administration of Customs, and General Administration of Quality Supervision, Inspection and Quarantine, 2017 Order No. 44, issued Sept. 27, 2017, effective Apr. 1, 2018); *see also* ITIF, *Submission, Section 301 Hearing* 6 (Oct. 25, 2017).
[168] *Provisions on the Administration of Access for New Energy Vehicle Manufacturers and Products*, art. 2 (MIIT, [2009] Order No. 44, effective July 1, 2009).
[169] NEV models that satisfy the market access rules were published in a catalogue. *See Provisions on the Administration of Access for New Energy Vehicle Manufacturers and Products*, art. 8 (MIIT, [2009] Order No. 44, effective July 1, 2009). Only NEV models listed in the catalogue were eligible for certain subsidies. *See Notice on Developing Energy Efficient and New Energy Vehicle Demo Promotion Pilot Work* § 3, art. 7(1) (MOST, MOF, Cai Jian [2009] No. 6, issued Jan. 23, 2009). *See also Notice on New Energy Vehicle Expanded Use Fiscal Support Policies for 2016-2020* § 1(2) (MOF, MOST, MIIT, NDRC, Cai Jian [2015] No. 134, issued Apr. 22, 2015).
[170] *Provisions on the Administration of Access for New Energy Vehicle Manufacturers and Products* (MIIT, [2009] Order No. 44, effective July 1, 2009), Appendix 2, Requirement 5 required the NEV manufacturer "possess intellectual property (at least rights to make design changes or usage rights) for the mastered core technology." *See*

manufacturers to transfer their valuable technologies to the NEV JV, which they do not control, in order to gain market access.[171]

The pressure on NEV manufacturers to transfer core NEV technology to their JVs in China has intensified over the last year. New market access rules issued by MIIT in 2017, which also apply to all enterprises that manufacture NEVs in China for use in China[172] and are a condition to be eligible for certain NEV preference programs,[173] impose an even more onerous standard. These rules require that NEV manufacturers "master" the development and manufacturing technology for a complete NEV, rather than just one of the three key technologies listed in the 2009 market access rules, and possess key R&D capacities.[174] As foreign automaker investment in China must be through a JV in which the foreign company holds no more than 50 percent equity, the foreign automaker effectively must transfer a high degree of key technologies and components to the JV in order for the JV to acquire mastery of the manufacturing process, including electronic and electrical control systems, on-board energy systems, powertrains, and dynamic coupling equipment.[175]

Several submissions from U.S. trade associations pointed to China's NEV rules as evidence of China's unfair technology transfer regime, with one trade association stating in hearing testimony that China's NEV rules present "a clear case in the electric vehicle sector that you're simply not going to be able to sell that product in China unless that local partner has mastered the ability to leverage the technology and take it to produce it going forth."[176]

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also TAI MING CHEUNG ET AL., U.S.-CHINA ECON. & SEC. REV. COMM'N, PLANNING FOR INNOVATION: UNDERSTANDING CHINA'S PLANS FOR TECHNOLOGICAL, ENERGY, INDUSTRIAL AND DEFENSE DEVELOPMENT 235-6 (2016); U.S. CHAMBER, *Submission, Section 301 Hearing* 16 (Oct. 3, 2017). *See also* Keith Bradsher, *Hybrid in a trade squeeze*, NEW YORK TIMES, Sept. 6, 2011 (reporting that the Chinese government was refusing to let GM's electric vehicle, the Chevrolet Volt, qualify for certain subsidies unless GM agreed to transfer the technology for "one of the Volt's three main technologies" (electric motors, electronic controls, or power storage) to a JV in China. These subsidies were reportedly "crucial" for allowing electric vehicles to sell in meaningful quantities.); Ben Klayman, *GM, SAIC to develop electric vehicles in China*, REUTERS, Sept. 20, 2011 (reporting that GM and its Chinese partner SAIC Motor Corp signed an agreement that they would build electric vehicles that would qualify for subsidies, noting that as the Volt was not built in China, it did not qualify for them).

[171] TAI MING CHEUNG ET AL., U.S.-CHINA ECON. & SEC. REV. COMM'N, PLANNING FOR INNOVATION: UNDERSTANDING CHINA'S PLANS FOR TECHNOLOGICAL, ENERGY, INDUSTRIAL AND DEFENSE DEVELOPMENT 236 (2016) (citing Sabrina Howell, Henry Lee, & Adam Heal, HARVARD KENNEDY SCHOOL BELFER CENTER, LEAPFROGGING OR STALLING OUT? ELECTRIC VEHICLES IN CHINA (May 2014)).

[172] *Provisions on the Administration of Access for New Energy Vehicle Manufacturers and Products*, art. 2 (MIIT [2017] Order No. 39, effective July 1, 2017).

[173] As with the 2009 rules, NEV models that satisfy the market access rules are published in a catalogue and only those NEV models listed in the catalogue are eligible for certain subsidies. *Provisions on the Administration of Access for New Energy Vehicle Manufacturers and Products*, art. 14 (MIIT, [2017] Order No. 39, effective July 1, 2017); *Notice on New Energy Vehicle Expanded Use Fiscal Support Policies for 2016-2020* § 1(2) (MOF, MOST, MIIT, NDRC, Cai Jian [2015] No. 134, issued Apr. 22, 2015).

[174] *Provisions on the Administration of Access for New Energy Vehicle Manufacturers and Products*, art. 5(3), app. 1 (MIIT, [2017] Order No. 39, effective July 1, 2017); *see also* U.S. CHAMBER, *Submission, Section 301 Hearing* 16 (Oct. 3, 2017).

[175] *Provisions on the Administration of Access for New Energy Vehicle Manufacturers and Products*, art. 5(3), app. 1 (MIIT, [2017] Order No. 39, effective July 1, 2017).

[176] Stephen Ezell, ITIF, *Testimony, Section 301 Hearing* 38-39 (Oct. 10, 2017); *see also* U.S. CHAMBER, *Submission* 16 (Oct. 3, 2017); U.S. CHAMBER, MADE IN CHINA 2025: GLOBAL AMBITIONS BUILT ON LOCAL PROTECTIONS 27 (2017).

b) Aviation

The state is the dominant force on the demand-side in many industries in China, both through direct purchases made by the central and local governments and through purchases made by SOEs, which account for a large share of purchasing decisions.[177] According to one hearing participant, "often an implicit part of the deal of whether or not a company has its product or good chosen and purchased is [whether] there's going to be a transfer of technology concomitant with that sale."[178] Similarly, AmCham China's 2013 White Paper on Civil Aviation states "many US companies possess intellectual property (IP) that serves as their source of competitiveness and profitability, yet they are sometimes required (implicitly or explicitly) to transfer such IP to their JV partners". [179] In the aviation industry, China uses its purchasing power to require JVs and technology transfer in exchange for two types of business opportunities– the sale of commercial aircraft to China's state-owned airlines and the sale of aircraft components to Chinese-made aircraft.

The fact that China's three largest airlines – AirChina, China Eastern, and China Southern – are all state-owned and account for the vast majority of aircraft purchases provides the Chinese government with a significant degree of leverage over foreign aircraft makers.[180] Purchases of commercial aircraft by China's state-owned airlines require approval by the Chinese government.[181] According to industry experts and participants, China uses its leverage to maintain a balance between purchases of foreign aircraft[182] and to pressure them to form JVs with Chinese companies and localize production.[183] China is effectively able to exert this pressure over aircraft manufacturers because of the size of China's commercial aircraft

[177] The European Chamber of Commerce in China in 2011 estimated that China's government procurement market including SOEs ranges from 12 percent to 20percent of China's GDP. EU CHAMBER OF COMMERCE IN CHINA, PUBLIC PROCUREMENT IN CHINA: EUROPEAN BUSINESS EXPERIENCES COMPETING FOR PUBLIC CONTRACTS IN CHINA 16 (Apr. 2011).
[178] Stephen Ezell, ITIF, *Testimony*, *Section 301 Hearing* 38 (Oct. 10, 2017).
[179] AMCHAM CHINA 2013 WHITE PAPER 188 (2012).
[180] *See* KEITH CRANE, ET AL., RAND, THE EFFECTIVENESS OF CHINA'S INDUSTRIAL POLICIES IN COMMERCIAL AVIATION MANUFACTURING 27 (2014).
[181] *See e.g., CAAC Notice Regarding the Report on Civil Aviation System Management System Reform*, (State Council Guo Fa [1985] No. 3, Issued Dec. 3, 1984). *See also* Yan Yan, *Secrets of "Elderly" Aircraft*, PEOPLE'S DAILY, Apr. 6, 2015, http://paper.people.com.cn/gjjrb/html/2015-04/06/content_1550497.htm (last visited Dec. 8, 2017) for a description of the government approval process for purchasing and leasing aircraft in China.
[182] This problem has been widely discussed in industry and government fora, including in two reports commissioned by the U.S.-China Economic and Security Review Commission which explain how the Chinese government leverages purchases of aircraft in exchange for agreements that it hopes will lead to technology transfers into China's aviation industry. *See, e.g.*, KEITH CRANE, ET AL., RAND, THE EFFECTIVENESS OF CHINA'S INDUSTRIAL POLICIES IN COMMERCIAL AVIATION MANUFACTURING (2014); ROGER CLIFF, CHAD J. R. OHLANDT, DAVID YANG, RAND, READY FOR TAKEOFF: CHINA'S ADVANCING AEROSPACE INDUSTRY 38 (Mar. 2011).
[183] Owen Herrnstadt, INT'L ASS'N OF MACHINISTS & AEROSPACE WORKERS (*hereinafter* "IAM"), *Testimony*, *Section 301 Hearing* 28-9 (Oct. 10, 2017); KEITH CRANE, ET AL, RAND, THE EFFECTIVENESS OF CHINA'S INDUSTRIAL POLICIES IN COMMERCIAL AVIATION MANUFACTURING 29 (2014); *The Impact of International Technology Transfer on American Research and Development: Hearing Before the House Committee on Science, Space, and Technology, Subcommittee on Investigations and Oversight*, 112th Cong. 8 (2012) (Statement of Robert D. Atkinson).

market,[184] coupled with required government approvals of aircraft purchases by state-owned airlines, and fierce competition for a limited number of government-approved sales.

China similarly uses its purchasing power to foster the development of a domestic supply chain for Chinese-made aircraft, particularly the C919, which will be China's first "homegrown" large commercial aircraft.[185] Industry observers have described the purchase order process for the C919 as "state directed," "coerced," and "choreographed" by the central government.[186] Within this process, JVs are used as a key mechanism for obtaining the technology needed to support the development of a domestic supply chain for Chinese-made aircraft:

> Chinese government officials have clearly communicated to foreign firms in the commercial aviation manufacturing industry that their business in China would be much more likely to enjoy success if they are seen as a "friend of China." Companies can demonstrate this by setting up local production facilities, bringing in technologies, or participating in the C919 project...[187]

Specifically, the Commercial Aircraft Corporation of China (COMAC), a centrally-controlled SOE,[188] has made clear that foreign suppliers to the C919 program must enter into JVs with Chinese suppliers to participate in tenders for key components and systems.[189] This pressure is particularly prevalent in tenders for high-tech functions where Chinese capabilities are lagging,

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[184] The International Air Transport Association estimates that China's aviation market will reach 1.3 billion passengers by 2035, compared to only 1.1 billion in the U.S. market. Based on these projections, some estimates predict that Chinese airlines will need to purchase 6,810 aircraft worth more than $1 trillion by 2035. Press Release, International Air Transport Association, IATA Forecasts Passenger Demand to Double Over 20 Years (Oct. 18, 2016); *Boeing lifts long-term outlook for China plane demand to $1 trillion*, REUTERS (Sept. 13, 2016).

[185] This problem has been widely discussed in industry and government fora, including in two reports commissioned by the U.S.-China Economic and Security Review Commission which explain how the Chinese government leverages purchases of aircraft in exchange for agreements that it hopes will lead to technology transfers into China's aviation industry. *See, e.g.*, KEITH CRANE, ET AL., RAND, THE EFFECTIVENESS OF CHINA'S INDUSTRIAL POLICIES IN COMMERCIAL AVIATION MANUFACTURING (2014); ROGER CLIFF, CHAD J. R. OHLANDT, DAVID YANG, RAND, READY FOR TAKEOFF: CHINA'S ADVANCING AEROSPACE INDUSTRY 38 (Mar. 2011).

[186] Steve Wilhelm, *Mighty 737 Has Rivals on its Tail—and not Just Airbus*, PUGET SOUND BUSINESS JOURNAL, Aug. 17, 2012; *The Enduring Jetliner Duopoly*, AEROSPACE AMERICA, Oct. 2012; *C919 May Suffer Order Bottleneck over Next 4 Yrs*, SINOCAST, Sept. 20, 2012; *National Priority: COMAC Is Behind Schedule on C919 Supplier Selection, but Has State Directed Orders in the Bag*, AVIATION WEEK & SPACE TECHNOLOGY, June 28, 2010; Alexey Komarov, Michael A. Taverna, *Growing Pains*, AVIATION WEEK & SPACE TECHNOLOGY, Nov. 22, 2010.

[187] KEITH CRANE, ET AL, RAND, THE EFFECTIVENESS OF CHINA'S INDUSTRIAL POLICIES IN COMMERCIAL AVIATION MANUFACTURING 31 (2014).

[188] *See List of Central Enterprises* [Chinese], ASSET SUPERVISION AND ADMINISTRATION COMMISSION OF THE CHINESE STATE COUNCIL, *available at* http://www.sasac.gov.cn/n2588035/n2641579/n2641645/index.html (last visited Jan. 7, 2018).

[189] *Why the "Main Manufacturer – Supplier" Model* [Chinese], COMMERCIAL AIRCRAFT CORPORATION OF CHINA (COMAC) (June 24, 2013), http://www.comac.cc/xw/mtjj/201306/24/t20130624_941203.shtml (last visited Dec. 11, 2017) ("As a result [of the drive to develop domestic industry], during the supplier bidding process, COMAC has explicitly put forward that for five systems including avionics, it seeks technological advancements, and at the same time, requires the establishment of joint ventures with domestic suppliers, build-out of R&D, integration, production and assembly, and testing capabilities for system-level products, as well as the formation of a complete set of batch-production and customer service capabilities. Concurrently, [COMAC] has supported the participation of domestic suppliers in system-level and equipment-level R&D cooperation, and encouraged domestic enterprises and institutions to cooperate with foreign suppliers in the form of subcontracted production, to participate in research and procurement projects for other large aircraft systems and equipment.").

such as advanced materials and flight control systems.[190] A 2015 press statement issued by COMAC explains that it selected sixteen leading international suppliers and it pushed for these suppliers to partner with domestic enterprises to develop key technologies for the C919. As a result, these sixteen JVs have "improved the overall level of China's aerospace R&D and manufacturing through technology transfer, diffusion, and spillover."[191]

AmCham China's 2012 White Paper on Civil Aviation makes clear how China's technology transfer regime puts pressure on U.S. aviation companies:

> Indigenous innovation industrial policy in the aerospace sector is forcing US companies to form joint ventures (JV) or localize manufacturing in order to participate in domestic aircraft programs such as the C919. Rather than being market-driven, these JVs are often with the Aviation Industry Corporation of China (AVIC) or COMAC designated partners… Additionally, many US companies possess intellectual property that serves as the source of their competitiveness and profitability, yet they are being forced to transfer their intellectual property in order to participate in this sector. It is challenging enough for companies to manage a successful JV when they choose their own JV partner. When JV partners are designated by an outside party, the difficulty of running a successful JV increases further.[192]

In this investigation, the International Association of Machinists and Aerospace Workers (IAM) criticized U.S. aviation companies for responding to this pressure by transferring certain technologies and production to China.[193] Other submissions stated, however, that aviation companies face few realistic alternatives; even if U.S. companies did not accede, those from other countries would do so to and gain a critical competitive advantage.[194] Another submission put the matter more starkly:

> [A] 'voluntary' technology transfer takes place, but one that is only voluntary in the sense that the business transactions engaged in by the fictional gangster of the *Godfather* series, Vito Corleone, were voluntary. China is effectively making an offer multinationals cannot refuse. Once Chinese producers are able to produce commercial aircraft, the state-owned airlines can be induced to buy them, even if they lag multinational products in terms of reliability or performance. Shut out of the world's largest market for their product, multinational players are forced to shrink, export opportunities are lost, and the leading firms have fewer resources to invest in the next generation of products."[195]

C. Administrative Review and Licensing Processes as Used in China's Technology Transfer Regime

[190] KEITH CRANE, ET AL, RAND, THE EFFECTIVENESS OF CHINA'S INDUSTRIAL POLICIES IN COMMERCIAL AVIATION MANUFACTURING at 31 (2014).
[191] *The C919 First Large Passenger Plane Comes Off General Assembly Line, Xi Jinping Issues Important Directive, Premier Li Keqiang Issues Comments, Ma Kai and Han Zheng Attend the Ceremony* [Chinese] COMAC (Nov. 2, 2015), http://www.comac.cc/xwzx/gsxw/201511/02/t20151102_3031037.shtml (last visited Dec. 11, 2017).
[192] AMCHAM CHINA 2012 WHITE PAPER 190 (2012).
[193] IAM, *Submission, Section 301 Hearing* 1 (Sept. 29, 2017).
[194] Lewis, *Submission, Section 301 Hearing* 3 (Sept. 27, 2017).
[195] Lee Branstetter, *Submission, Section 301 Hearing* 2 (Sept. 28, 2017).

China also uses its administrative review and licensing processes to force the disclosure of sensitive technical information and to achieve its technology transfer objectives. China maintains numerous administrative review and licensing processes that companies must comply with before establishing or expanding operations, or offering products or services in the China market.[196] These review and licensing processes, which occur in agencies at the central, provincial, and municipal levels, often are used as an opportunity to require technology transfer.[197] Vaguely worded provisions and uncertainty about the applicable rules provide Chinese authorities with wide discretion to use administrative processes to pressure technology transfer, restrict investments to protect domestic competitors, or otherwise act in furtherance of industrial policy objectives.[198]

1. Technology Transfer Pressure in Administrative Approvals and Licensing

Foreign investment in China requires obtaining numerous government approvals depending on the terms of the investment and the industry and location in which the investment occurs. For instance, a foreign investment may be required to obtain (1) investment approval from the Ministry of Commerce (MOFCOM) or its local counterpart, (2) project approval from the National Development and Reform Commission (NDRC), its local counterpart, or the State Council, (3) national security and (4) anti-monopoly approval by MOFCOM, and (5) local approvals for site-related requirements.[199]

At each stage of the approval process, vaguely worded provisions provide government officials with significant discretion to impose technology transfer requirements. For example, China's regulations governing JVs expressly state that equity joint ventures should raise China's level of science and technology.[200] Moreover, China's JV regulations stipulate that MOFCOM in conducting its approval review of an EJV or CJV must consider *inter alia* whether the

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[196] USCBC, UPDATE: LICENSING CHALLENGES AND BEST PRACTICES IN CHINA 2 (Jan. 2014).

[197] USCBC, *Submission, Section 301 Hearing* 4 (Sept. 28, 2017); U.S. CHAMBER, *Submission, Section 301 Hearing* 17 (Oct. 3, 2017) (misuse of administrative license procedures provides the opportunity for a company's trade secrets to be put at risk of unnecessary disclosure); U.S. DEP'T OF STATE, INVESTMENT CLIMATE STATEMENT 6 (2017); Covington & Burling LLP, *Measures and Practices Restraining Foreign Investment in China*, prepared for the European Commission Directorate-General for Trade 65 (Aug. 2014).

[198] USCBC, *Submission, Section 301 Hearing* 4 (Sept. 28, 2017); U.S. CHAMBER, *Submission, Section 301 Hearing* 17 (Oct. 3, 2017) (misuse of administrative license procedures provides the opportunity for a company's trade secrets to be put at risk of unnecessary disclosure); U.S. DEP'T OF STATE, INVESTMENT CLIMATE STATEMENT 6 (2017); Covington & Burling LLP, *Measures and Practices Restraining Foreign Investment in China*, prepared for the European Commission Directorate-General for Trade 65 (Aug. 2014); U.S. CHAMBER, MADE IN CHINA 2025: GLOBAL AMBITIONS BUILT ON LOCAL PROTECTIONS 27-29, 33 (2017).

[199] *See generally* U.S. CHAMBER OF COMMERCE, CHINA'S APPROVAL PROCESS FOR INBOUND FOREIGN INVESTMENT: IMPACT ON MARKET ACCESS, NATIONAL TREATMENT AND TRANSPARENCY (Nov. 2012); *see also* JAMES M. ZIMMERMAN, CHINA LAW DESKBOOK (4th ed. 2014). In 2016, some MOFCOM approvals were replaced with a record filing requirement, but MOFCOM approval is still required for those industries listed on the Negative List, and all FIEs are still subject to national security or anti-monopoly reviews where applicable.

[200] *Regulations for the Implementation of the Law of the People's Republic of China on Chinese-Foreign Equity Joint Ventures*, art. 3 (State Council, Guo Fa [1983] No. 148, issued Sep. 20, 1983, effective Sep. 20, 1983, amended Jan. 15, 1986, in Guo Fa [1986] No. 6, further amended Dec. 21, 1987, in Guo Fa [1987] No. 110, Jul. 22, 2001, in Order of the State Council No. 311, Jan. 8, 2011, in Order of the State Council No. 588, and Feb. 19, 2014, in Order of the State Council No. 648).

investment is consistent with China's national economic development needs or industrial policy goals, respectively. [201]

In addition, China imposes administrative licensing[202] requirements on more than 100 different business activities, such as food and drug production, mining, or telecommunications services, for all enterprises in China.[203] Even if a foreign investment in a particular industry is technically permitted, a foreign invested enterprise (FIE) must still obtain an industry-specific license in order to conduct these activities.[204] The specific requirements and approval timelines vary widely depending on the industry at issue. For heavily regulated industries, the industry regulator review process can take more than a year.[205]

The US Chamber of Commerce has highlighted how the Chinese government uses its discretion in the review process to apply vague and unwritten rules in a selective and non-transparent manner:

> The relatively opaque nature of the inbound FDI approval processes enables China's investment approval authorities to favor domestic competitors over foreign investors, should they so desire, without leaving a paper trail of discriminatory written regulations that could clearly offend WTO obligations. Foreign investors have reported this favoritism occurring in two ways: (i) through the application of vaguely worded or unpublished rules or requirements in ways that discriminate against foreign investors; and (ii) through the imposition of deal-specific conditions that go beyond any written legal requirements.[206]

In one investigation submission, a former in-house counsel reported similar practices from his time doing business in China:

> [T]here is a very clear discretionary administrative approval processes and other restrictions adopted by the Government of China that pressure the transfer of intellectual property to Chinese companies and/or to Chinese State Owned Enterprises in order to 'do business' in China and receive required licensing approvals. Often the language in Chinese licensing and business registration forms may not be clear as to its required and mandatory expectation for technology transfer by U.S. companies to Chinese firms or state agencies, but licensing officials within regional Chinese centers clarify in person, what is expected, without providing written documents that could be subsequently shared

[201] *Regulations for the Implementation of the Law of the People's Republic of China on Chinese-Foreign Equity Joint Ventures*, art. 4*; Rules for the Implementation of the Law of the People's Republic of China on Chinese-Foreign Contractual Joint Ventures,* art. 9 (Order of the State Council*,* issued September 4, 1995, last amended March 1, 2017); *see also* JAMES M. ZIMMERMAN, CHINA LAW DESKBOOK 147 (4th ed. 2014).
[202] The Chinese term *xuke zheng* is often translated as "license" or "permit".
[203] U.S. CHAMBER OF COMMERCE, CHINA'S APPROVAL PROCESS FOR INBOUND FOREIGN INVESTMENT: IMPACT ON MARKET ACCESS, NATIONAL TREATMENT AND TRANSPARENCY 17 (Nov. 2012).
[204] U.S. CHAMBER OF COMMERCE, CHINA'S APPROVAL PROCESS FOR INBOUND FOREIGN INVESTMENT: IMPACT ON MARKET ACCESS, NATIONAL TREATMENT AND TRANSPARENCY 18 (Nov. 2012).
[205] U.S. CHAMBER OF COMMERCE, CHINA'S APPROVAL PROCESS FOR INBOUND FOREIGN INVESTMENT: IMPACT ON MARKET ACCESS, NATIONAL TREATMENT AND TRANSPARENCY 18 (Nov. 2012).
[206] U.S. CHAMBER OF COMMERCE, CHINA'S APPROVAL PROCESS FOR INBOUND FOREIGN INVESTMENT: IMPACT ON MARKET ACCESS, NATIONAL TREATMENT AND TRANSPARENCY 35-36 (Nov. 2012).

> with global trade organizations. So a carefully crafted and structured process has been developed to avoid obvious demands for U.S. technology.[207]

The administrative licensing and approvals process can also work in tandem with the JV requirements described above to require or pressure technology transfer. A study conducted by the U.S. Chamber of Commerce concluded:

> The [JV requirement] creates numerous circumstances where investment approval authorities are able to work in an nontransparent way with the local partner to ensure that valuable intellectual property, market channels, and other assets of the foreign investor are made available to the joint venture — often on extremely favorable commercial terms for the local partner. This problem is exacerbated by the fact that in Sino-foreign joint ventures, the local partner serves as the investment approval process applicant on behalf of the prospective joint venture. As a result, Chinese joint venture partners are able, in many cases, to control the communication channels between the foreign investor and the government approval authorities, making the process even more opaque for the foreign investor and enabling the local partner to shape the approval requirement imposed by the authorities to its advantage.[208]

Problems with administrative licensing processes are consistently identified as top concerns in annual surveys of U.S. companies in China.[209] According to the most recent USCBC member survey, for example, companies specifically ranked "obtaining licenses and approvals" and "investment barriers" as the second and third greatest challenges, respectively.[210] Moreover, 65 percent of respondent companies experienced problems obtaining necessary licenses and approvals in China. According to the survey, these licensing problems occurred overwhelmingly at the central government level (80 percent) and almost three-fourths of respondents report that China's licensing reforms have had no impact to date.[211] Similarly, in each of AmCham China's 2017 and 2018 annual surveys, U.S. companies ranked China's inconsistent regulatory interpretations as a top challenge.[212] Companies also repeatedly identified "difficulty in obtaining required licenses" as a top challenge.[213]

As one legal treatise on foreign investment in China explains:

> Even under the existing laws, where approvals are required for foreign investment, it is not unusual to experience a situation where the Catalogue on Guiding Foreign Investment may provide that a certain activity may be conducted by a WFOE, [while] the Chinese

[207] Stephen Zirschky, *Submission, Section 301 Hearing* (Sept. 28, 2017).
[208] U.S. CHAMBER OF COMMERCE, CHINA'S APPROVAL PROCESS FOR INBOUND FOREIGN INVESTMENT: IMPACT ON MARKET ACCESS, NATIONAL TREATMENT AND TRANSPARENCY 38-39 (Nov. 2012).
[209] AMCHAM CHINA, 2016 AMCHAM CHINA WHITE PAPER: AMERICAN BUSINESS IN CHINA 8 (2016); USCBC, UPDATE: LICENSING CHALLENGES AND BEST PRACTICES IN CHINA 1 (Apr. 2016).
[210] USCBC, 2017 MEMBER SURVEY 2 (2017).
[211] USCBC, 2017 MEMBER SURVEY 12 (2017).
[212] AMCHAM CHINA, 2017 CHINA BUSINESS CLIMATE SURVEY REPORT 28 (2017); AMCHAM CHINA, 2018 CHINA BUSINESS CLIMATE SURVEY REPORT 40 (2018).
[213] AMCHAM CHINA, 2017 CHINA BUSINESS CLIMATE SURVEY REPORT 28 (2017); AMCHAM CHINA, 2018 CHINA BUSINESS CLIMATE SURVEY REPORT 40 (2018).

> authorities openly state that a WFOE will never be approved—only a joint venture, and only if all material technology is transferred to the joint venture.[214]

ITIF's submission in this investigation provides further example of how China's administrative authorities pressure foreign investors' decisions on technology and R&D localization:

> The CEO of a large multinational telecommunications equipment company recently shared with ITIF that he opened up a large R&D facility in Beijing that employs over 500 scientists and engineers. When asked if he did this to access Chinese engineering talent, he responded bluntly: "Unless I promised the Chinese Government that I would open up an advanced technology lab there, I was told that I would not be able to sell to the Chinese telecommunications providers," (most of which are de facto controlled by the Chinese government).[215]

As described above, discretion in China's administrative licensing process can be used to require technology transfer or impose deal-specific conditions in exchange for the licenses necessary for a foreign investor to operate in China. Similarly, ambiguity in the administrative licensing and approvals process may also result in technology transfer where existing laws and regulations are unclear as to the relevant requirements for foreign investors— this problem is particularly acute in new and emerging industries.

As one submission noted:

> "[U]ncertainty surrounding administrative licensing regulations can also serve as a *de facto* limit for companies hoping to move into certain sectors. Businesses are often particularly cautious about advancing into new and under-regulated business sectors such as telemedicine, fearing that they might find themselves in violation of new regulations after investing."[216]

These violations may lead to technology transfer in circumstances where foreign-invested enterprises must quickly comply with new regulations (or new interpretations of existing regulations) that threaten to shut down their existing business in China. According to numerous submissions in this investigation, an important example of how ambiguity in China's administrative licensing process is used to pressure technology transfer arises in the field of cloud computing.[217]

Cloud Computing

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[214] OWEN D. NEE, JR., SHAREHOLDER AGREEMENTS AND JOINT VENTURES IN CHINA 57 (Thomson Reuters ed, 2016). The authors further conclude that even if China does adopt a Negative List approach, "it is doubtful that a [negative list] will effectively abolish such internal regulations or "neibu wenjian."

[215] ITIF, *Submission, Section 301 Hearing* 6 (Oct. 25, 2017).

[216] USCBC, *Follow-Up Submission, Section 301 Hearing* 4-5 (Oct. 30, 2017).

[217] CONSUMER TECHNOLOGY ASS'N [*hereinafter* "CTA"], *Submission, Section 301 Hearing* 10 (Sept. 28, 2017); COMPTIA, *Submission, Section 301 Hearing* 4 (Sept. 28, 2017); INFORMATION TECHNOLOGY INDUSTRY COUNCIL [*hereinafter* "ITI"], *Submission, Section 301 Hearing* 3-4 (Sept. 28, 2017); COALITION OF SERVICES INDUSTRIES, *Submission Section 301 Hearing* 2 (Sept. 28, 2017); *see generally* TELECOMMUNICATIONS INDUSTRY ASS'N, *Submission, Section 301 Hearing* (Sept. 28, 2017).

China has prioritized the development of its cloud computing sector and seeks to raise its indigenous cloud computing capability and achieve "systematic breakthroughs" in "indigenously innovated core technology" by 2020.[218] Submissions in this investigation raised concerns with China's restrictions on foreign investment, and related licensing practices and policies in this field.[219] These submissions indicate that the Chinese government has used regulatory ambiguity to benefit Chinese cloud computing businesses and pressure technology transfer. China first tacitly permitted foreign investors to partner with licensed Chinese cloud service providers in order to gain market access, and then, once key technology and know-how had been injected into these partnerships, China resolved the regulatory ambiguities that had necessitated these arrangements in favor of the Chinese partner, resulting in the transfer of technology to the Chinese partner.

China precludes U.S. cloud service providers (CSPs) from directly participating in the three most common forms of cloud computing: computing infrastructure as a service (IaaS); computer platform as a service (PaaS); and computer software as a service (SaaS).[220] CSPs must obtain certain value-added telecommunication licenses, such as an internet data center (IDC) license, from China's MIIT or its local counterpart to operate their businesses.[221] According to numerous submissions in this investigation, in practice, China does not grant such licenses to U.S. investors and thus does not permit U.S. CSPs to provide cloud computing services directly to customers in China.[222]

However, the global nature of cloud computing means that forgoing the China market is simply not a commercially viable option for U.S. CSPs, whose customers demand globally available services.[223] This is particularly the case for technology companies that have invested in and built up a market share in China in areas that are rapidly transitioning to cloud-based delivery. Thus, a business built on managing a customer's computing resources, or supplying and maintaining software applications has little option but to offer those services on a cloud basis, given the economic, technical and security superiority of the cloud model, the transition to which customers now demand.

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[218] *Notice on Issuing 13th Five-year Plan for National Informatization*, Sec. 2(3) (State Council, Guo Fa [2016] No. 73, issued Dec. 15, 2016). In addition, the plan states that by 2020, China should have "basically established a secure and controllable IT industry ecosystem", and asserts that "digitization comprehensively underpins the development of Party and national government initiatives."

[219] CTA, *Submission, Section 301 Hearing* 10 (Sept. 28, 2017); COMPTIA, *Submission, Section 301 Hearing* 4 (Sept. 28, 2017); ITI, *Submission*, *Section 301 Hearing* 3-4 (Sept. 28, 2017); U.S. CHAMBER OF COMMERCE, *Submission*, *Section 301 Hearing* 18-19 (Oct. 3, 2017); *see generally* TELECOMMUNICATIONS INDUSTRY ASS'N [*hereinafter* "TIA"], *Submission, Section 301 Hearing* (Sept. 28, 2017).

[220] U.S. companies are global leaders in these sectors. USITC, GLOBAL DIGITAL TRADE 1: MARKET OPPORTUNITIES AND KEY FOREIGN TRADE RESTRICTIONS 19-20 (Aug. 2017).

[221] *See Telecommunications Regulations of the People's Republic of China*, art. 7 and the *Telecommunications Services Catalogue*, attached as the Annex (State Council Order No. 291, issued Sept. 25, 2000 and amended on July 29, 2014 and Feb. 6, 2016), which lists IDC under the VATS operator license.

[222] IDC licenses have only been granted to Chinese companies and joint ventures with Hong Kong or Macau investors and have not been granted to joint ventures with investors from the U.S. and other jurisdictions. *See* Samuel Yang, *Regulation of Cloud Computing in China*, PRACTICAL LAW (Apr. 26, 2017).

[223] BSA THE SOFTWARE ALLIANCE [*hereinafter* "BSA"], *Submission, Section 301 Hearing* 3 (Sept. 28, 2017).

In view of this commercial reality, the only way U.S. suppliers are able to participate in the market is through contractual arrangements with Chinese entities eligible to obtain the required licenses.[224] Under these arrangements, U.S. suppliers will train the employees of the Chinese license holder how to operate complex technology, and are effectively forced to provide their proprietary cloud computing technology, brands, and know-how to their Chinese partners, in exchange for a fee or a share of revenue.[225] This reality disadvantages U.S. companies in China as these contractual arrangements provide even less rights and protections with respect to their investment and technology than would be available through an equity investment.

Until 2016, China permitted such contractual arrangements by granting the requisite license to the Chinese partner. However, recent draft regulations prohibit these arrangements, which have long been relied upon by foreign CSPs for market access. In March 2016, China released the *Notice on Regulating Business Operations in Cloud Service Market (Draft for Public Comment)* and the *Circular on Cleaning Up and Regulating the Internet Access Service Market*, which exacerbated the challenges facings U.S. CSPs operating in the Chinese market. [226] According to the written submissions in this investigation, these measures effectively prohibit, *inter alia*, (1) the Chinese license holder from providing any facilities or other resources to the foreign CSP; (2) the foreign CSP from entering into contracts with customers directly; and (3) the provision of cloud services under the trademark of the foreign CSP. [227]

U.S. and other foreign CSPs operating in China through contractual arrangements inconsistent with this draft notice are now faced with the prospect of needing to restructure their existing arrangements and relinquish ownership and operations of their cloud business to a Chinese company in order to comply with the new rules.[228] Indeed, although the draft notice has yet to be finalized, some U.S. suppliers have already done just that.[229]

2. Forced Disclosure of Sensitive Technical Information

A second technology transfer mechanism used by Chinese administrative agencies is the forced disclosure of sensitive technical information. In a wide variety of industry sectors, the Chinese

[224] *See e.g.*, Jason Verge, *Microsoft Launches Azure in China Via 21Vianet Group*, DATACENTER KNOWLEDGE, (May 22, 2013) ("In November 2012, Microsoft, 21Vianet and the Shanghai Municipal Government announced a strategic partnership agreement in which Microsoft licensed the technology know-how and rights to operate and provide Office 365 and Windows Azure services in China to 21Vianet. '21Vianet will act as an operation entity for Azure, hosting the service in its data centers and handling the customer relationship,' said Vianet's CFO, Shang Hsiao.").

[225] NAT'L FOREIGN TRADE COUNCIL [*hereinafter* "NFTC"], *Submission*, *Section 301 Hearing* 3 (Sept. 28, 2017).

[226] *See Notice on Regulating Business Operations in Cloud Service Market (Draft for Public Comment)* § 4(1)-4(5) (released by MIIT Mar. 2016); *Circular on Cleaning up and Regulating the Internet Access Service Market* (MIIT, Gong Xin Bu Xin Guan Han [2017] No. 32, issued Jan. 17, 2017).

[227] ITI, *Submission*, *Section 301 Hearing* 4 (Oct. 4, 2017); U.S. CHAMBER, *Submission*, *Section 301 Hearing* 19 (Oct. 3, 2017); NFTC, *Submission*, *Section 301 Hearing* 3-4 (Sept. 28, 2017); CompTIA, *Submission*, *Section 301 Hearing* 7-8 (Sept. 28, 2017).

[228] *See e.g.*, Stratford, *et al*., *How China's Draft Regulations Will Control Cloud Services*, LAW360 (Dec.15, 2016); McGinty et al., HOGAN LOVELLS, DRAFT LEGISLATION TO AFFECT CHINA CLOUD SERVICES MARKET ACCESS (Jan. 2017).

[229] Cate Cadell, *Amazon Sells off China Cloud Assets as Tough New Rules Bite*, REUTERS, Nov. 13, 2017 ("In November 2017, for example, Amazon.com Inc. sold off its public cloud business in China to its local partner for $301.2 million. According to Amazon, this was done 'to comply with Chinese law.'").

government requires the disclosure of unreasonable amounts of sensitive technical information in exchange for necessary administrative approvals. As noted by European researchers:

> A particular concern amongst various industries including but not limited to ICT, pharmaceuticals, chemicals, agro-food (in particular GMOs), machinery and financial services, centers on the depth of information which needs to be provided to the authorities for obtaining the authorization to build a factory, to market a product, etc. In some cases, this information was provided to the local industry who used this data to develop similar activities.[230]

U.S. stakeholders are particularly concerned because the forced disclosures put technology and intellectual property at risk.[231] Forced disclosures of information are especially problematic in cases in which the disclosure must be made not just to government officials but also to outsiders. This occurs when China requires reviews by "expert panels" that may include representatives from Chinese government, industry, academia, or others who may have a competitive interest in the information.[232]

Information disclosure and expert panel review requirements can arise at any stage of a company's operations in China and in a wide variety of industries. For example, in the pre-establishment phase, a company may be subject to expert review panels to assess the safety, environmental impact, and energy conservation of the proposed investment.[233] Panels typically require companies to respond to "detailed information [requests] about project costs and revenue, capacity and equipment information, raw material and energy requirements, and other sensitive details about the operations."[234]

The information required to be disclosed may include trade secrets. For example:

> One company that submitted its safety assessment to an approval agency was required to provide specific temperature and pressure range information for its process equipment... that would make it easier for a competitor to learn about a production process the company considered to be a trade secret.[235]

As noted by the American Chamber of Commerce in Shanghai:

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[230] Paul Ranjard, Benoit Misonne, *Study 12: Exploring China's IP Environment, in* Study on the Future Opportunities and Challenges of EU-China Trade and Investment Relations 24 (2007).
[231] USCBC, *Submission, Section 301 Hearing* 4-5 (Sept. 28, 2017); U.S. CHAMBER, *Submission, Section 301 Hearing* 17 (Oct. 3, 2017).
[232] USCBC, UPDATE: LICENSING CHALLENGES AND BEST PRACTICES IN CHINA 8 (Jan. 2014); USCBC, IMPROVING CHINA'S LICENSING SYSTEM: RECOMMENDATIONS FOR KEY SECTORS 2 (Mar. 2014); Paul Ranjard, Benoit Misonne, *Study 12: Exploring China's IP Environment, in* Study on the Future Opportunities and Challenges of EU-China Trade and Investment Relations 15 (2007).
[233] USCBC, *Submission, Section 301 Hearing* 5 (Sept. 28, 2017). *See e.g., China Energy Conservation Product Certification Management Measures* (National Economic and Trade Commission, issued Feb. 11, 1999), art. 3 states that evidence a product meets "standards or technological needs" is one of the criteria for receiving the *Energy Conservation Certificate*.
[234] USCBC, IMPROVING CHINA'S LICENSING SYSTEM: RECOMMENDATIONS FOR KEY SECTORS 4 (Mar. 2014).
[235] USCBC, IMPROVING CHINA'S LICENSING SYSTEM: RECOMMENDATIONS FOR KEY SECTORS 3 (Mar. 2014).

> Companies have also expressed concerns about some of China's product approval requirements. In particular, for companies to gain approval from regulatory agencies they must disclose proprietary formula or designs. Despite assurances by regulators, companies are still not confident that the information will be protected. Some companies report that they have been able to push back but others have not been as successful and must face the difficult choice of seeking product approval, which could put proprietary information at risk, or not pursuing market opportunities in China in order to protect their IP.[236]

Similarly, environmental impact and energy conservation assessments require expert panel reviews, [237] and sometimes involve a "pre-review" by a separate panel prior to application.[238] Environmental impact panels "frequently include competitors or scholars affiliated with competitors."[239] In general, the panels introduce significant liability for companies seeking to safeguard their trade secrets, particularly since there are few safeguards in place to ensure that information is not misused.[240]

Expert review panels do not just apply before a company is established in China. For example, in the post-establishment phase, expert review panels may be required for security reviews in a range of industries under China's *Cybersecurity Law of the People's Republic of China* (*Cybersecurity Law*). [241] Although many implementing regulations of the cyber-review regime are in draft form only, stakeholders report concerns that current ambiguities in the law will be used to pressure unnecessary disclosure of companies' most critical technologies.[242] For example, companies may be forced to disclose critical technologies, including source code, complete design databases, behavior models, logic models, and even floor plans and physical layouts of central processing units.[243]

D. China's Acts, Policies, and Practices Are Unreasonable

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[236] AM. CHAMBER OF COMMERCE SHANGHAI, *Submission, Section 301 Hearing* 2 (Sept. 28, 2017);
[237] See *Environmental Impact Assessment Law of the People's Republic of China* (PRC Environmental Impact Assessment Law), art. 11, 13. (adopted at the 30th Meeting of the Standing Committee of the Ninth NPC, Order No. 77, on Oct. 28, 2002, effective Sept. 1, 2003, amended July 2, 2016). Art. 13 stipulates that the "expert working groups" shall be comprised of government representatives and other experts from the list of experts within the expert database created by the relevant government authority.
[238] USCBC, *Submission*, *Section 301 Hearing* 1 (Oct. 20, 2017). *See PRC Environmental Impact Assessment Law*, art. 11.
[239] USCBC, *Submission, Section 301 Hearing* 1 (Oct. 20, 2017).
[240] USCBC, UPDATE: LICENSING CHALLENGES AND BEST PRACTICES IN CHINA 8-9 (Jan. 2014). *See e.*g., *Administrative License Law of the People's Republic of China* (PRC Administrative License Law) (adopted by the Fourth Session of the Standing Committee of the Tenth NPC, Order No. 7, on Aug. 27, 2003, effective July 1, 2004), art. 31 (regarding scope of required information), art. 54-55 (regarding the types of technical material which need to be submitted for certain licenses), and art. 76 (regarding compensation in the event of violation).
[241] *Cybersecurity Law of the People's Republic of China* (adopted by the Twenty-fourth Session of the Twelfth NPC, on Nov. 7, 2016, effective June 1, 2017). Submissions received in this investigation are summarized in Appendix C to this report.
[242] *See* CTA, *Submission, Section 301 Hearing* 6 (Sept. 28, 2017); U.S. CHAMBER, *Submission* at 31; TIA, *Submission, Section 301 Hearing* 2 (Sept. 28, 2017).
[243] SEMICONDUCTOR INDUSTRY ASS'N [*hereinafter* "SIA"], *Submission, Section 301 Hearing* 10, fn 42 (Sept. 28, 2017).

Conduct that is "unreasonable" is actionable under Section 301, provided that it also burdens or restricts U.S. commerce. The statute defines an "unreasonable" act, practice, or policy as one that "while not necessarily in violation of, or inconsistent with, the international legal rights of the United States is otherwise unfair and inequitable."[244] The statute further provides that in determining unreasonableness, the USTR shall take into account, to the extent appropriate, whether foreign companies in the United States have access to reciprocal opportunities to those denied U.S. companies.[245] Based on the foregoing factors, China's technology transfer regime is unreasonable.

According to the Organization for Economic Co-operation and Development (OECD), very few countries employ foreign equity limitations or screen foreign investments on the basis of potential technology-related benefits.[246] China's foreign investment restrictions and administrative review and licensing systems not only exert great technology transfer pressures on U.S. companies, but also are substantially more restrictive than those of the United States and most other countries. Indeed, the OECD has consistently ranked China's foreign investment regulatory regime as one of the most restrictive in the world based on an evaluation of (i) equity restrictions on foreign ownership, (ii) screening and prior approval requirements, (iii) rules for key personnel, and (iv) restrictions on the operation of foreign enterprises.[247] For example, in 2016, China was ranked the fourth most restrictive economy out of 63 OECD and non-OECD member economies measured—only the Philippines, Saudi Arabia, and Myanmar were more restrictive. This low ranking is particularly striking given that China is the world's second largest economy and it has extensive global trading relationships as compared to the other economies at the bottom of the index. China's restrictiveness score was also 3.7 times higher than that of the United States.[248]

Moreover, the OECD's regulatory restrictiveness index does not even account for the full breadth of restrictive practices used by China to pressure technology transfer. The OECD index only captures those laws and policies pertaining to equity caps and pre-establishment administrative screening processes that have been formally adopted by the Chinese central government.[249] As discussed above, China's technology transfer requirements often do not take

[244] 19 U.S.C. § 2411(d)(3)(A).
[245] 19 U.S.C. § 2411(d)(3)(D).
[246] PRZEMYSLAW KOWALSKI, DANIEL RABAIOLI, SEBASTIAN VALLEJO, OECD, INTERNATIONAL TECHNOLOGY TRANSFER MEASURES IN AN INTERCONNECTED WORLD: LESSONS AND POLICY IMPLICATIONS, TAD/TC/WP(2017)1/FINAL, 2017 43-45 ¶ 130-1 (2017) ("In particular, making FDI in technology-related sectors conditional upon joint ventures…or requiring direct transfer of technology to the local partner… are not found in most of the countries [surveyed]. This may be a result of awareness that such laws deter investors and may be counterproductive. However, such measures are still present in two developing countries, namely China and Nigeria…Screening on the basis of potential technology-related benefits… is present in only five countries. For example, in China, for a project to be approved, it should meet the requirements of mid and long term planning for national economic development, de facto meaning that the government will screen investment on the basis of its technology-transfer potential.").
[247] *FDI Regulatory Restrictiveness Index*, OECD, http://www.oecd.org/investment/fdiindex.htm (last visited Oct. 20, 2017).
[248] *FDI Regulatory Restrictiveness Index*, OECD, http://www.oecd.org/investment/fdiindex.htm (last visited Oct. 20, 2017).
[249] In its methodology, the OECD specifies that its regulatory restrictiveness measures do not account for measures imposed at the sub-national level, and do not account for variability in restrictiveness stemming from implementation of formally adopted laws or policies. In other words, the regulatory restrictiveness index does not

the form of written laws or policies promulgated by China's central government and are often carried out orally and "behind closed doors."[250] Evidence collected in this investigation also has demonstrated that forced disclosure of technical information occurs throughout the life span of U.S. companies' operations in China through a variety of administrative reviews and licensing processes.[251] These practices are not captured by the OECD's index.

China's regime is ultimately unfair and inequitable because it greatly restricts the freedom of U.S. companies to deploy and fully protect their valuable and hard-won technologies to compete in China. Instead of fostering a level playing field, China's regime gives systematic and structural support for technology acquisition by Chinese companies from U.S. and other foreign competitors.[252] Faced with China's regime, U.S. companies must either cede substantial control over their valuable technologies or be closed out of one of the world's largest and fastest-growing economies.[253] This results in a highly asymmetric playing field where U.S. companies face immensely restrictive policies in China, while Chinese companies are not equally restricted in the United States.[254]

Accordingly, China's technology transfer regime—including foreign ownership restrictions and administrative approval and licensing process that are used to require or pressure the transfer of technology from U.S. companies to Chinese entities— is unfair, inequitable, and results in nonreciprocal opportunities relative to Chinese companies operating in the United States. These acts, practices, or policies are unreasonable as defined in Section 301.

E. China's Acts, Policies, and Practices Burden or Restrict U.S. Commerce

The unreasonable act, policy, or practice of a foreign country must also burden or restrict U.S. commerce to be actionable under Section 301. In the present case, required or pressured technology transfer significantly undermines the value of American technology (including IP), thereby distorting markets and compromising U.S. companies' global competitiveness. Therefore, China's acts, policies, and practices that effectuate technology transfer burden and restrict U.S. commerce.

Technology and IP drive economic growth and sustain the competitive edge of the U.S. economy.[255] According to the Department of Commerce, in 2014, IP-intensive industries

account for restrictions that are informally applied "behind closed doors", by government officials. *See* Blanka Kalinova, et. al., OECD, FDI RESTRICTIVENESS INDEX: 2010 UPDATE 6 (2010).

[250] *See supra* Section II.A-C.

[251] *See supra* Section II.C. In a recent AmCham China survey, 52% of respondents believe that in China the risk of "IP leakage and IT and data security threats" was greater than those in other countries. AMCHAM CHINA, 2018 CHINA BUSINESS CLIMATE SURVEY REPORT 31 (2018).

[252] BSA, *Submission, Section 301 Hearing* 3-4 (Sept. 28, 2017); CSI, *Submission, Section 301 Hearing* 5 (Sept. 28, 2017); NAM, *Submission, Section 301 Hearing* 12-13 (Sept. 28, 2017).

[253] BSA, *Submission, Section 301 Hearing* 3 (Sept. 28, 2017); U.S. CHAMBER, *Submission, Section 301 Hearing* 15 (Oct. 3, 2017).

[254] U.S. CHAMBER, *Submission, Section 301 Hearing* 40 (Oct. 3, 2017).

[255] U.S. PATENT & TRADEMARK OFFICE [*hereinafter* "USPTO"], & ECON. & STATISTICS ADMIN. INTELLECTUAL PROPERTY AND THE U.S. ECONOMY: 2016 UPDATE 1 (2016); *see also* NAT'L SCIENCE BOARD, SCIENCE & ENGINEERING INDICATORS, 6-20 (2016) (among all major economies, the United States has the highest concentration of knowledge-intensive and technology-intensive industries as a share of total economic activity).

supported approximately 45.5 million jobs in the United States, and workers in those industries earned significantly higher wages on average than those working in non-IP-intensive industries.[256] Further, IP-intensive companies represented more than 39 percent of U.S. GDP, and accounted for 52 percent of U.S. exports.[257] Therefore, as noted by multiple submissions in this investigation, the well-being of U.S. companies and their workers, along with the broader U.S. economy, is dependent in substantial part on the continued strength of IP-intensive industries.[258]

China's technology transfer policies effectively deprive U.S. companies of the full value of their IP and technology and inhibit them from fairly competing in the large China market. When U.S. companies are required or pressured to transfer their technology, they may experience not only a direct loss of key competitive assets, but also may lose their technological competitive edge in global markets. Moreover, as noted by submissions in this investigation, Chinese beneficiaries of technology transfer under the highly favorable circumstances created by China acquire powerful advantages without the expense or risk of developing the technology themselves, and thus enjoy an additional competitive advantage over foreign innovators.[259] If U.S. companies alternatively elect not to comply with Chinese requirements, the companies are excluded from an important and growing market, foregoing sales and export opportunities, and economies of scale.[260]

No matter how a U.S. company responds, the Chinese government's technology transfer regime generates considerable negative impacts on competition by depriving U.S. companies of the ability to achieve reasonable returns on their investments in the Chinese market and exploit legitimately obtained intellectual property rights, and prevents them from making investments at all.[261] Given the strategic importance of the large and growing Chinese market, obstacles to level competition are acutely harmful to U.S. companies.

Moreover, U.S. companies that lose the option of exclusive enjoyment of their valuable technology and are therefore unable to compete fairly in China may become less globally competitive in the long run. When U.S. companies are deprived of fair returns on their investment in IP, they are unable to achieve the growth necessary to reinvest in innovation.[262] In this sense, China's technology transfer regime directly burdens the innovation ecosystem that is an engine of economic growth in the United States and similarly-situated economies.[263]

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[256] USPTO, INTELLECTUAL PROPERTY AND THE U.S. ECONOMY: 2016 UPDATE 4, 30 (2016).
[257] USPTO, INTELLECTUAL PROPERTY AND THE U.S. ECONOMY: 2016 UPDATE iii (2016).
[258] WILEYREIN, *Submission, Section 301 Hearing* 11 (Sept. 28, 2017); IP COMMISSION, *Submission, Section 301 Hearing* 6 (Sept. 28 2017); *see generally* USPTO, INTELLECTUAL PROPERTY AND THE U.S. ECONOMY: 2016 UPDATE (2016).
[259] WILEYREIN, *Submission, Section 301 Hearing* 11 (Sept. 28, 2017); SOLARWORLD, *Submission, Section 301 Hearing* 2 (Oct. 20, 2017); NAM, *Submission, Section 301 Hearing* 9-10 (Sept. 28, 2017); CSIS, *Submission, Section 301 Hearing* 1 (Sept. 28, 2017).
[260] AMCHAM SHANGHAI, *Submission, Section 301 Hearing* 2 (Sept. 28, 2017); NAM, *Submission, Section 301 Hearing* 13 (Sept. 28, 2017).
[261] WILEYREIN, *Submission, Section 301 Hearing* 11 (Sept. 28, 2017).
[262] WILEYREIN, *Submission, Section 301 Hearing* 11 (Sept. 28, 2017); *see also* IAM, *Submission, Section 301 Hearing* 1 (Sept. 29, 2017).
[263] WILEYREIN, *Submission, Section 301 Hearing* 11 (Sept. 28, 2017).

In fact, the displacement of global industrial leaders—including U.S. companies—so that China may achieve global market dominance is an explicit policy goal of the Chinese government.[264] According to China's *Made in China 2025* initiative, for example, the Chinese government seeks to acquire foreign technology, absorb that technology to boost indigenous innovation, and displace foreign competitors in both domestic and international markets.[265] China's technology transfer regime is a key mechanism to achieve this goal.[266]

Annual surveys of companies conducted by AmCham China and USCBC indicate that addressing China's technology transfer regime would significantly increase U.S. investment in China. According to the 2018 AmCham China survey of U.S. companies, surveyed companies stated that they would significantly increase investment if China's government were able to: provide greater regulatory transparency and predictability; limit the use of industrial policies that create barriers; allow U.S. companies to enter business segments that are currently restricted; provide recourse for unfair investment treatment; allow U.S. companies to increase control over their operations by reducing the need for joint ventures and local business partners; allow strategic acquisitions; and reduce the need to engage in technology transfer.[267]

Ultimately, China's acts, policies, and practices that require or pressure technology transfer undermine U.S. companies' valuable IP, weaken their global competitiveness, and stunt investment in innovation.[268] Therefore, China's acts, policies, and practices with respect to technology transfer burden and restrict U.S. commerce.[269]

[264] U.S. CHAMBER, MADE IN CHINA 2025: GLOBAL AMBITIONS BUILT ON LOCAL PROTECTIONS 13 (2017); BJÖRN CONRAD, ET AL., MERCATOR INST. FOR CHINA STUDIES [*hereinafter* "MERICS"], MADE IN CHINA 2025 14, 16 (2016).

[265] MERICS, MADE IN CHINA 2025 16 (2016) (technological development to achieve the ultimate objective of import substitution is pervasive throughout the plan, which specifically calls for the development and usage of indigenous products in a variety of industries).

[266] *See* MERICS, MADE IN CHINA 2025 41 (2016).

[267] AMCHAM CHINA, 2018 CHINA BUSINESS CLIMATE SURVEY REPORT 53 (2018).

[268] WILEYREIN, *Submission, Section 301 Hearing* 11 (Sept. 28, 2017); U.S. CHAMBER, MADE IN CHINA 2025: GLOBAL AMBITIONS BUILT ON LOCAL PROTECTIONS 7 (2017).

[269] This finding is consistent with numerous other sources that confirm that Chinese technology transfer practices burden U.S. commerce. *See generally* USTR, NTE, SPECIAL 301 AND WTO COMPLIANCE REPORTS; U.S.-CHINA EC. & SEC.REV. COMM'N (2016); USITC, INV. NO. 332-519, CHINA: EFFECTS OF INTELLECTUAL PROPERTY INFRINGEMENT AND INDIGENOUS INNOVATION POLICIES ON THE U.S. ECONOMY (2011); USITC, INV. NO. 332-514, CHINA: INTELLECTUAL PROPERTY INFRINGEMENT, INDIGENOUS INNOVATION POLICIES, AND FRAMEWORKS FOR MEASURING THE EFFECTS ON THE U.S. ECONOMY (2010); U.S.-CHINA ECON. & SEC. REV. COMM'N, CHINA'S FIVE-YEAR PLAN, INDIGENOUS INNOVATION AND TECHNOLOGY TRANSFERS, AND OUTSOURCING (2011).

III. China's Discriminatory Licensing Restrictions

A. Introduction

The second category of conduct set forth in the *Federal Register Notice* issued on August 24, 2017, addresses China's acts, policies, and practices depriving U.S. companies of the ability to set market-based, mutually-desirable terms in licensing and other technology-related negotiations with Chinese companies. In addition to the difficulties with administrative licensing discussed in Section II, China also intervenes in U.S. firms' investments and related activities in China through restrictions on their technology licensing. These restrictions result in discriminatory technology transfer-related acts, policies, and practices that burden U.S. commerce.

China's regime of technology regulations deprives U.S. technology owners of the ability to bargain and set terms for technology transfer that are free from interference by China. U.S. firms seeking to license technologies to Chinese enterprises must do so on non-market-based terms that favor Chinese recipients. Moreover, the bureaucratic hurdles contained in licensing regulations provide China with an additional opportunity to pressure firms to transfer more technology, or transfer it on more favorable terms, in exchange for administrative approvals.

China's imposition of mandatory adverse licensing terms is reflected in official measures that impose a different set of rules for imported technology transfers originating from outside China, such as from U.S. entities attempting to do business in China, compared to separate rules for technology transfers occurring between two domestic companies. The mandatory requirements for importation of foreign technology are discriminatory and clearly more burdensome than the domestic requirements, as explained in detail below. The result of these mandatory terms imposed only on technology import contracts is that foreign entities (including U.S. entities) doing business in China are at a disadvantage compared to Chinese entities. These restrictions benefit domestic entities at the expense of foreign competitors, including U.S. competitors, because the mandatory terms are only imposed on technology import contracts and do not govern technology contracts between two domestic parties. From the outset, the regime is tipped in favor of Chinese entities before a U.S. company even attempts to enter the market in China through a legal framework adversely influencing all technology negotiations and contracts.

As explained in more detail below, due to mandatory provisions in China's regime of technology regulations, U.S. entities seeking to license foreign technologies to enterprises in China must do so on non-market-based terms that favor Chinese recipients. One such entity, the Office of Intellectual Property (IP) and Industry Research Alliances (IPIRA) at the University of California, Berkeley, summarized its experiences with these unacceptable terms mandated by the Chinese regime, provided at Appendix E to this report.

B. Foreign Licensing Restrictions and China's Technology Transfer Regime

China regulates instances in which an entity seeks to transfer technology into China under its *Regulations of the People's Republic of China on the Administration of the Import and Export of*

115TH CONGRESS
2D SESSION

S. 3329

To amend section 232 of the Trade Expansion Act of 1962 to require the Secretary of Defense to initiate investigations and to provide for congressional disapproval of certain actions, and for other purposes.

IN THE SENATE OF THE UNITED STATES

AUGUST 1, 2018

Mr. PORTMAN (for himself, Mr. JONES, Mrs. ERNST, and Mr. ALEXANDER) introduced the following bill; which was read twice and referred to the Committee on Finance

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A BILL

To amend section 232 of the Trade Expansion Act of 1962 to require the Secretary of Defense to initiate investigations and to provide for congressional disapproval of certain actions, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the ''Trade Security Act of 2018''.

SEC. 2. INVESTIGATIONS TO DETERMINE EFFECTS ON NATIONAL SECURITY OF IMPORTS OF ARTICLES AND CONGRESSIONAL REVIEW OF PRESIDENTIAL ACTIONS.

(a) INVESTIGATIONS AND DETERMINATIONS BY SECRETARY OF DEFENSE.—Section 232 of the Trade Expansion Act of 1962 (19 U.S.C. 1862) is amended—

(1) in subsection (b)—

(A) in paragraph (1)—

(i) in subparagraph (A), by striking ''Secretary of Commerce'' and all that follows through '' 'Secretary')'' and inserting ''Secretary of Defense''; and

(ii) in subparagraph (B)—

(I) by striking ''Secretary shall'' and inserting ''Secretary of Defense shall''; and

(II) by striking ''Secretary of Defense of'' and inserting ''Secretary of Commerce of'';

(B) in paragraph (2)—

(i) by striking subparagraph (B);

(ii) in the matter preceding clause (i)—

(I) by striking ''(A) In'' and inserting ''In''; and

(II) by striking ''Secretary'' and inserting ''Secretary of Defense''; and

(iii) by striking clauses (i) through (iii) and inserting the following:

''(A) consult with the Secretary of Commerce regarding the methodological and policy questions raised in any investigation initiated under paragraph (1);

''(B) prepare an assessment of the defense requirements and national security impact of any article that is the subject of an investigation, which shall focus on—

''(i) the impact of the importation of the article on military readiness and critical infrastructure; and

''(ii) the need for a reliable supply of the article to protect national security;

''(C) seek information and advice from the Secretary of Commerce;

''(D) consult with appropriate officers of the United States;

''(E) consult with members of the Committee on Finance of the Senate and members of the Committee on Ways and Means of the House of Representatives; and

''(F) hold public hearings, co-chaired with the Department of Commerce, or otherwise afford interested parties an opportunity to present information and advice relevant to such investigation.'';

(C) in paragraph (3)—

(i) by redesignating subparagraph (B) as subparagraph (D);

(ii) by striking subparagraph (A) and inserting the following:

''(A) Not later than 200 days after the date on which the Secretary of Defense initiates an investigation under paragraph (1) with respect to an article, the Secretary of Defense shall submit to the President a report on the findings of such investigation with respect to the effect of the importation of such article in such quantities or under such circumstances on the national security of the United States.

''(B) If the report described in subparagraph (A) includes an affirmative finding that the importation of an article in such quantities or under such circumstances threatens to impair the national security, the President may direct the Secretary of Commerce to devise recommendations to address such threat.

''(C) Not later than 100 days after receiving from the President under subparagraph (B) a direction to de-

vise recommendations with respect to an article, the Secretary of Commerce, in consultation with the United States Trade Representative, the Secretary of Defense, members of the Committee on Finance of the Senate, and members of the Committee on Ways and Means of the House of Representatives, shall submit to the President a report that includes—

''(i) recommendations for action or inaction under this section with respect to the article; and

''(ii) the findings of the Secretary of Commerce with respect to the investigation by the Secretary of Defense under paragraph (1).''; and

(iii) in subparagraph (D), as redesignated by subparagraph (C)—

(I) by striking ''Secretary'' and inserting ''Secretary of Defense''; and

(II) by inserting ''or the report submitted by the Secretary of Commerce under subparagraph (C)'' after ''subparagraph (A)''; and

(D) in paragraph (4), by inserting ''of Defense, in consultation with the Secretary of Commerce,'' after ''The Secretary'';

(2) in subsection (c)(1), by striking subparagraph (A) and inserting the following:

''(A) Not later than 60 days after receiving recommendations submitted under subsection (b)(3)(C)(i) with respect to an article, the President shall—

''(i) decide whether to take action based on such recommendations; and

''(ii) if the President decides to take action under clause (i), determine the nature and duration of the action to be taken to adjust the imports of the article and its derivatives so that such imports will not threaten to impair the national security.'';

(3) by redesignating the second subsection (d) as subsection (e);

(4) in subsection (d)—

(A) by striking ''the Secretary and the President'' each place it appears and inserting ''the Secretary of Defense, the Secretary of Commerce, and the President''; and

(B) by inserting '', the production of which is needed for national defense requirements and critical infrastructure in the United States'' after ''welfare of individual domestic industries''; and

(5) in subsection (e)(1), as redesignated by paragraph (3), by striking ''Secretary'' and inserting ''Secretary of Defense''.

(b) CONGRESSIONAL DISAPPROVAL OF PRESIDENTIAL ACTION.—Section 232(f) of the Trade Expansion Act of 1962 (19 U.S.C. 1862(f)) is amended—

(1) in paragraph (1), by striking ''of petroleum or petroleum products''; and

(2) in paragraph (2)(B)—

(A) by striking ''petroleum imports'' and inserting ''imports''; and

(B) by striking ''of petroleum or petroleum products'' and inserting ''imports''.

(c) APPLICABILITY.—

(1) IN GENERAL.—Except as provided in paragraph (2), subsection (f) of section 232 of the Trade Expansion Act of 1962 (19 U.S.C. 1862), as amended by subsection (b), shall apply to adjustments of imports under that section on or after July 1, 2018.

(2) EXCEPTION.—Subsection (f) of section 232 of the Trade Expansion Act of 1962 (19 U.S.C. 1862), as amended by subsection (b), shall not apply to the presidential actions taken under that section on March 8, 2018, relating to the adjustment of imports of steel and aluminum, or any subsequent actions (including proclamations, Executive orders, or

other Executive acts) relating to those presidential actions.

○

115TH CONGRESS
2D SESSION

S. 3013

To amend the Trade Expansion Act of 1962 to require Congressional approval before the President adjusts imports that are determined to threaten to impair national security.

IN THE SENATE OF THE UNITED STATES

JUNE 6, 2018

Mr. CORKER (for himself, Ms. HEITKAMP, Mr. TOOMEY, Mr. WARNER, Mr. ALEXANDER, Mr. SCHATZ, Mr. JOHNSON, Mr. VAN HOLLEN, Mr. FLAKE, Mr. LEE, Mr. SASSE, Mrs. SHAHEEN, and Mr. ISAKSON) introduced the following bill; which was read twice and referred to the Committee on Finance

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A BILL

To amend the Trade Expansion Act of 1962 to require Congressional approval before the President adjusts imports that are determined to threaten to impair national security.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. CONGRESSIONAL APPROVAL BEFORE ADJUSTMENT BY PRESIDENT OF IMPORTS DETERMINED TO THREATEN TO IMPAIR NATIONAL SECURITY.

(a) IN GENERAL.—Section 232 of the Trade Expansion Act of 1962 (19 U.S.C. 1862) is amended—

(1) in subsection (c)—

(A) in paragraph (1)—

(i) by striking subparagraph (B);

(ii) in the matter preceding clause (i), by striking ''(A) Within'' and inserting ''Within'';

(iii) by redesignating clauses (i) and (ii) as subparagraphs (A) and (B), respectively; and

(iv) in subparagraph (B), as redesignated by clause (iii)—

(I) by striking ''determine'' and inserting ''submit to Congress, not later than 15 days after making that determination, a proposal regarding''; and

(II) by striking ''must'' and inserting ''should''; and

(B) by striking paragraphs (2) and (3) and inserting the following:

''(2) The President shall submit to Congress for review under subsection (f) a report describing the action proposed to be taken under paragraph (1) and specifying the reasons for such proposal. Such report shall be included in the report published under subsection (e).'';

(2) by redesignating the second subsection (d) as subsection (e); and

(3) by striking subsection (f) and inserting the following:

''(f) CONGRESSIONAL APPROVAL OF PRESIDENTIAL ADJUSTMENT OF IMPORTS; JOINT RESOLUTION OF APPROVAL.—

''(1) IN GENERAL.—An action to adjust imports proposed by the President and submitted to Congress under subsection (c)(2) shall have force and effect only upon the enactment of a joint resolution of approval, provided for in paragraph (3), relating to that action.

''(2) PERIOD FOR REVIEW BY CONGRESS.—The period for congressional review of a report required to be submitted under subsection (c)(2) shall be 60 calendar days.

''(3) JOINT RESOLUTIONS OF APPROVAL.—

''(A) JOINT RESOLUTION OF APPROVAL DEFINED.—In this subsection, the term 'joint

resolution of approval' means only a joint resolution of either House of Congress—

"(i) the title of which is as follows: 'A joint resolution approving the proposal of the President to take an action relating to the adjustment of imports entering into the United States in such quantities or under such circumstances as to threaten or impair the national security.'; and

"(ii) the sole matter after the resolving clause of which is the following: 'Congress approves of the recommendation of the President to Congress relating to the adjustment of imports to protect the national security as proposed by the President in the report submitted to Congress under section 232(c)(2) of the Trade Expansion Act of 1962 (19 U.S.C. 1862(c)(2)) on _____ relating to _____.', with the first blank space being filled with the appropriate date and the second blank space being filled with a short description of the proposed action.

"(B) INTRODUCTION.—During the period of 60 calendar days provided for under para-

graph (2), a joint resolution of approval may be introduced and shall be referred to the appropriate committee.

''(C) FLOOR CONSIDERATION IN HOUSE OF REPRESENTATIVES.—If a committee of the House of Representatives to which a joint resolution of approval has been referred has not reported the joint resolution within 10 calendar days after the date of referral, that committee shall be discharged from further consideration of the joint resolution.

''(D) CONSIDERATION IN THE SENATE.—

''(i) COMMITTEE REFERRAL.—A joint resolution of approval introduced in the Senate shall be referred to the Committee on Finance.

''(ii) REPORTING AND DISCHARGE.—If the committee to which a joint resolution of approval was referred has not reported the joint resolution within 10 calendar days after the date of referral of the joint resolution, that committee shall be discharged from further consideration of the joint resolution and the joint resolution

shall be placed on the appropriate calendar.

''(iii) PROCEEDING TO CONSIDERATION.—Notwithstanding Rule XXII of the Standing Rules of the Senate, it is in order at any time after the Committee on Finance reports a joint resolution of approval or has been discharged from consideration of such a joint resolution to move to proceed to the consideration of the joint resolution. The motion to proceed is not debatable. The motion is not subject to a motion to postpone. A motion to reconsider the vote by which the motion is agreed to or disagreed to shall not be in order.

''(iv) RULINGS OF THE CHAIR ON PROCEDURE.—Appeals from the decisions of the Chair relating to the application of the rules of the Senate, as the case may be, to the procedure relating to a joint resolution of approval shall be decided by the Senate without debate.

''(E) RULES RELATING TO SENATE AND HOUSE OF REPRESENTATIVES.—

''(i) TREATMENT OF SENATE JOINT RESOLUTION IN HOUSE.—In the House of Representatives, the following procedures shall apply to a joint resolution of approval received from the Senate (unless the House has already passed a joint resolution relating to the same proposed action):

''(I) The joint resolution shall be referred to the Committee on Ways and Means.

''(II) If the Committee on Ways and Means has not reported the joint resolution within 2 calendar days after the date of referral, that committee shall be discharged from further consideration of the joint resolution.

''(III) Beginning on the third legislative day after each committee to which a joint resolution has been referred reports the joint resolution to the House or has been discharged from further consideration thereof, it shall be in order to move to proceed to consider the joint resolution in the

House. All points of order against the motion are waived. Such a motion shall not be in order after the House has disposed of a motion to proceed on the joint resolution. The previous question shall be considered as ordered on the motion to its adoption without intervening motion. The motion shall not be debatable. A motion to reconsider the vote by which the motion is disposed of shall not be in order.

''(IV) The joint resolution shall be considered as read. All points of order against the joint resolution and against its consideration are waived. The previous question shall be considered as ordered on the joint resolution to final passage without intervening motion except 2 hours of debate equally divided and controlled by the sponsor of the joint resolution (or a designee) and an opponent. A motion to reconsider the vote on passage of

the joint resolution shall not be in order.

''(ii) TREATMENT OF HOUSE JOINT RESOLUTION IN SENATE.—

''(I) If, before the passage by the Senate of a joint resolution of approval, the Senate receives an identical joint resolution from the House of Representatives, the following procedures shall apply:

''(aa) That joint resolution shall not be referred to a committee.

''(bb) With respect to that joint resolution—

''(AA) the procedure in the Senate shall be the same as if no joint resolution had been received from the House of Representatives; but

''(BB) the vote on passage shall be on the joint resolution from the House of Representatives.

''(II) If, following passage of a joint resolution of approval in the Senate, the Senate receives an identical joint resolution from the House of Representatives, that joint resolution shall be placed on the appropriate Senate calendar.

''(III) If a joint resolution of approval is received from the House, and no companion joint resolution has been introduced in the Senate, the Senate procedures as described in subparagraph (D) shall apply to the House joint resolution.

''(F) RULES OF HOUSE OF REPRESENTATIVES AND SENATE.—This paragraph is enacted by Congress—

''(i) as an exercise of the rulemaking power of the Senate and the House of Representatives, respectively, and as such is deemed a part of the rules of each House, respectively, and supersedes other rules only to the extent that it is inconsistent with such rules; and

"(ii) with full recognition of the constitutional right of either House to change the rules (so far as relating to the procedure of that House) at any time, in the same manner, and to the same extent as in the case of any other rule of that House.".

(b) EFFECTIVE DATE.—

(1) IN GENERAL.—The amendments made by subsection (a) shall apply to any proposed action covered by subsection (c) of section 232 of the Trade Expansion Act of 1962 (19 U.S.C. 1862), as so amended, on or after the date that is two years before the date of the enactment of this Act.

(2) TIMING OF CERTAIN PROPOSALS.—If the President makes a determination described in subsection (c)(1)(A) of such section, as so amended, during the period beginning on the date that is two years before the date of the enactment of this Act and ending on the day before such date of enactment, the submission to Congress of the proposal described in subsection (c)(1)(B) of such section, as so amended, shall be required not later than 15 days after such date of enactment.

(3) MODIFICATION OF DUTY RATE AMOUNTS.—

(A) IN GENERAL.—Any rate of duty modified under section 232(c) of the Trade Expansion Act of 1962 (19 U.S.C. 1862(c)) during the period specified in paragraph (2) shall on the date of the enactment of this Act revert to the rate of duty in effect before such modification.

(B) RETROACTIVE APPLICATION FOR CERTAIN LIQUIDATIONS AND RELIQUIDATIONS.—

(i) IN GENERAL.—Subject to clause (ii), any entry of an article that—

(I) was made—

(aa) on or after the date that is two years before the date of the enactment of this Act; and

(bb) before such date of enactment; and

(II) to which a lower rate of duty would be applicable due to the application of subparagraph (A),

shall be liquidated or reliquidated as though such entry occurred on such date of enactment.

(ii) REQUESTS.—A liquidation or reliquidation may be made under clause (i)

with respect to an entry only if a request therefor is filed with U.S. Customs and Border Protection not later than 180 days after the date of the enactment of this Act that contains sufficient information to enable U.S. Customs and Border Protection—

(I) to locate the entry; or

(II) to reconstruct the entry if it cannot be located.

(iii) PAYMENT OF AMOUNTS OWED.—Any amounts owed by the United States pursuant to the liquidation or reliquidation of an entry of an article under clause (i) shall be paid, without interest, not later than 90 days after the date of the liquidation or reliquidation (as the case may be).

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