

# The Return of Planning in China: Comment on Heilmann–Melton and Hu Angang

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## Abstract

Heilmann and Melton break important new ground in describing the revival of development planning in China and showing how planning is now interwoven with other aspects of the political system, particularly policy formulation and cadre evaluation. Clarification of the instruments planners use and their link to developmental outcomes would improve the argument. Although planners believe their plans are consistent with a market economy, it may turn out that the revival of planning after 2003 was purchased at the cost of significant distortions in the market economy and reduced efficiency.

## Keywords

planning, market reform, energy conservation, industrial policy

Heilmann and Melton's study of development planning greatly enriches our understanding of policy and economics in China, and suggests a fresh narrative of the process of economic and political change over the past thirty years. Their article is especially strong on the positive analysis of planning and its position in the Chinese governmental system. Hu Angang's excellent piece is complementary, since it is especially strong on the normative analysis, laying

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out the ideal shape and potentially positive impact of contemporary Chinese planning. I will make brief comments on these extremely rich articles, organized into three sections: the first highlights some of the contributions of these articles, while the second and third raise questions about interpretation and evaluation. I will ask whether the authors have given sufficient attention to the deeply contested meanings of the term “planning,” and whether their suggested narrative of “reinvention” adequately describes the evolution of planning in China over the past twenty years.

## Understanding the Role of Planning in the Chinese System

Heilmann and Melton (hereafter, HM) point out that the literature on China’s economic system focuses largely on the transition to a market economy, and is therefore incomplete. Focusing on planning, at a minimum, gives us insight into what Chinese elites think they are achieving. This focus reminds us that from the beginning, economic reform has primarily been conceived of as part of a developmental agenda. As Deng Xiaoping famously declared, “development is the only hard truth.” As the literature on China’s transformation broadens to take in a more complex and nuanced picture of the interactions among economic, political, and social dynamics, policies besides “reform” will play a larger role, and HM’s work will serve as a fundamental building block in this process. HM may play a role in the China literature analogous to that played in the “developmental state” literature by Robert Wade’s classic book on Taiwan (Wade, 1992). Before Wade, analysis of Taiwan’s economic policy was dominated by a narrowly economic narrative of export-led development and market opening. Wade showed that, at a minimum, part of the Taiwan economic bureaucracy was devoted to identifying and implementing government interventions to shape specific industries and economic development overall. HM do something similar for China.

Both HM and Hu Angang emphasize that planning today is seen *by the planners* as being complementary to markets, and in no way designed to replace the market mechanism. HM provide interesting insights into plan formulation, pointing out that it is just one part of a continuous cycle of information gathering and analysis, organized into a five-year policy cycle that is *not synchronized* with the leadership turnover cycle. Thus, the planning cycle contributes to stable articulation of national objectives, while also permitting gradual revision of those goals. Hu Angang develops in depth the idea that planning is fundamentally an information elicitation and synthesis process. He shows that the planning process involves four successive rounds of consultation, which synthesize different viewpoints and gradually develop

a consensus. For Hu, planning is one part—but a crucial and continuous part—of the top-bottom interaction through which Chinese policy makers develop and adapt policies and achieve compliance with them. This type of continuous consensus building permits China's otherwise fractious and unwieldy bureaucracy to produce outcomes compatible with its dynamic economy.

HM note that plan formulation has attracted relatively more attention than plan implementation, and they concentrate particular attention on the implementation process. Both HM and Hu Angang note that planning has shifted away from economic objectives—though these are still important—and toward governmental and social objectives. HM refer to “government promises” as an important part of the plan, and Hu Angang endorses this formulation. (Oddly, neither talks much about infrastructure planning, despite the obvious importance of China's centrally coordinated infrastructure push.) Especially striking is HM's careful analysis of the way plan implementation involves an interaction among government officials at many different levels. A key insight is that “plan targets and cadre evaluations have . . . become complementary policy tools.” That is, plan targets get written into the success indicators that government officials must achieve to gain bonuses and advancement opportunities. Thus, incentives are coordinated and the bureaucracy made more tractable, and this process has also “effectively raised the political status of national and regional Development and Reform Commissions.”

In short, HM show us how the planning process is deeply integrated with other aspects of the Chinese political system, especially the policy-making and implementation processes, and the cadre evaluation system. Thus, we need to pay more attention to today's more powerful, higher status, and more complex National Development and Reform Commission (NDRC). Recent events support HM's view. In February 2013, the NDRC produced an “income distribution plan,” essentially a bundle of policies designed to, in the aggregate, shift economic resources and decision making modestly toward the household sector (and away from the government and state enterprises) (State Council, 2013). In the run-up to the Third Plenum (of the Eighteenth Party Central Committee) in the fall of 2013, the crucial role in drafting a “top-level design” for what is shaping up to be a major new economic reform initiative is being played by Liu He, the office head of the Communist Party Finance and Economics Leadership Small Group. As Heilmann has elsewhere emphasized, Liu He has deep roots in the NDRC, and in particular in the industrial policy and national planning process (Ge and Huo, 2013). These important developments are not consistent with the casual and overly simplistic view that sees the NDRC as an old-style planning agency hostile to market-oriented reforms. Clearly, to understand China's economic policy in

the coming years—including economic reform policy—it will be essential to understand the role of the NDRC, and this must include its own self-conception and evaluation of its own experiences. HM and Hu Angang make major contributions to this understanding.

## What Is Planning?

Neither HM nor Hu Angang provide a clear definition of planning. In part, this is because they are engaged in showing the diversity of activities that go under the rubric “planning” and demonstrating how different these are from traditional (pre-reform) planners’ activities. However, this lack of definition is also a weakness. Can any statement about the future be considered “planning” so long as it is issued by an official “planning” agency and declared authoritative? What do we mean by planning? In fact, “planning” can have many different meanings, and the significance of the term is sharply contested. It may be worth going back to a famous article, originally published in 1991, in which the senior Chinese economist Wu Jinglian emphasized a fundamental distinction between two uses of the term “plan.” The plan as a resource-allocation mechanism, Wu said, should not be confused with planning as a set of coordinated policies designed to achieve an operational outcome (Wu, [1991] 2013). As a resource-allocation mechanism, the plan is the basis of the command economy, and is fundamentally incompatible with a market system. By contrast, planning as an operational outcome can achieve developmental goals in many ways, with different government agencies having initiative, and many instruments in use. Planning that achieves operational outcomes in this sense includes macroeconomic policy, redistributive tax policies, and so forth, and is entirely compatible with a market economy.

Taking up the first definition at the outset, the big story of China in the 1980s and 1990s was the successful manner in which planning *as a resource-allocation mechanism*—that is, the command economy—was abandoned, at first partially and then decisively (in 1993). This transition was extraordinarily successful and saved China the economic devastation that accompanied the collapse of socialism in the Soviet Union. Using this precise definition, there was indeed a “demise of the plan” in China. Moreover, in my view, this demise is still the single most important element of the economic transformation of the 1980s and 1990s.<sup>1</sup> Obviously, both HM and Hu Angang fully understand this distinction, and they take for granted that the planning in which they are interested is based on the market and concerned with operational outcomes. Hu Angang explicitly praises China’s new planning as a “visible hand . . . that is market-friendly and market-serving.” However, because the consistency between planning and the market is taken

for granted in both pieces, the question of whether China's planning in practice is *actually* consistent with the market economy is not discussed, and the distinction between different definitions of planning is sometimes blurred. For example, HM in their Table 1 list eight "binding" targets for the Eleventh Five-Year Plan and sixteen "binding" targets for the Twelfth Five-Year Plan. Aren't these, at least partially, plan targets that are resource-allocation mechanisms? These targets have the additional common feature that they do not specify exactly on whom the targets are binding nor through what "binding" instruments the targets will be realized. For example, the population growth target is "binding," but upon whom? Energy consumption per unit of gross domestic product (GDP) is "binding," but upon whom? In both cases, the targets appear to be binding in the sense that they set quantitative targets that will be disaggregated and assigned to local-level officials, who are notified that they will be sanctioned if they do not achieve these targets. Those local-level officials are then authorized to use unspecified instruments to achieve these objectives. There is no means to insure that the actual choice of instruments by local officials will be "market-friendly and market-serving," quite the contrary. HM call them "government promises," which is certainly true in some cases; but a promise to do something which you have the power and resources to do yourself—such as the construction of 36 million units of affordable housing—is quite different from a promise to compel somebody else to do something. We need to ask, if "planning" is defined in such a way that it does *not* refer to a resource-allocation mechanism, then what alternative mechanisms—or instruments—are being used to carry out planners' wishes?

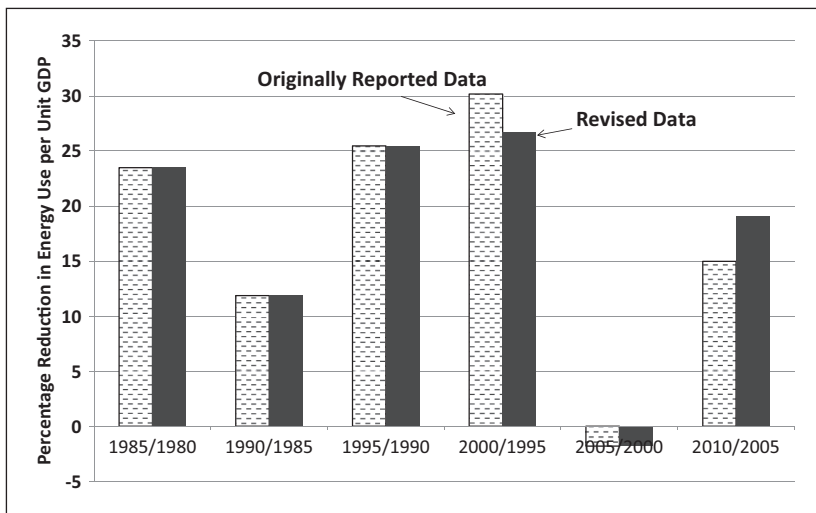
In a related sense, if "planning" refers to a broad portfolio of policies designed to produce operational outcomes, we need to ask what governmental agency is the most appropriate place to house those functions and policy-making procedures. For example, if "planning" refers to a government promise to provide better social welfare and education, isn't this fundamentally a budgetary decision? What benefit is achieved by absorbing it into the planning apparatus? Similarly, if macroeconomic stability—or "macroeconomic control" 宏观调控—refers to counter-cyclical macroeconomic policy, isn't this fundamentally a central bank monetary policy decision? Again, what benefit is achieved by absorbing this into the planning apparatus? Indeed, isn't there some reason why most countries in the world have decided that independent central banks are superior means to provide macroeconomic stability? In fact, there is a strong argument that the involvement of the NDRC in Chinese macroeconomic policy over the past ten years has lowered the quality of Chinese macro policy making, contributing to excess liquidity and the formation of successive asset bubbles.

HM use energy policy as an example of fairly successful planning, in that the Eleventh Five-Year Plan (2006–2010) called for a 20 percent reduction in energy intensity (i.e., energy used per unit of GDP), and this was virtually achieved, with a 19 percent reduction. This argument is not fully convincing. In the first place, the facts are murkier than HM indicate. Early energy statistics from China had reported a huge decline in coal use in the years to 2000, followed by a surge to 2005. Some of this—but we are not quite sure how much—was statistical error caused by local governments hiding coal production when the government was cracking down on small, dangerous mines. When the Eleventh Plan was promulgated, these old, unadjusted data were still being published in official sources. But after the plan period started, energy use in 2005—the baseline for the plan’s 20 percent reduction—was revised upward precisely 5 percent, and this new figure became the baseline from which the Eleventh Plan period reduction in energy intensity was calculated! Of course, that made the target significantly easier to achieve.

The point here is not that plan fulfillment was faked (it was not), but rather that there is substantial scope for imprecision and misreporting. HM argue that the target of energy intensity of GDP was emphasized because it was easy to monitor, and energy conservation targets could be and were disaggregated into company-level targets for energy conservation. However, the overall target in fact is not that accurately monitored because when data are re-aggregated both energy consumed (the numerator) and GDP (the denominator) can be manipulated. Instead, targets like this are adopted for exactly the reasons HM lay out: they are simple, easy to monitor, and correspond to high-priority objectives.

The issue needs to be broadened. In the first place, the 2005–2010 energy intensity reduction was part of a long-term process (HM also stress this). Figure 1 shows that the reduction in energy intensity in the 2005–2010 period was in fact quite similar to the reduction in previous five year periods, *except* for the immediately preceding 2000–2005 period (the “Tenth Five-Year Plan”). (In Figure 1, energy reduction is shown as a positive number, so bigger is “better.”) The horrible record in 2000–2005 resulted from a combination of data coming back to reality, and from a dramatic growth in energy-hungry heavy industry production (steel and cement) during that period. Was a twenty percent reduction “good”? Not necessarily: you might have thought some positive “bounce back” could be achieved after the terrible record of the previous five years, just to bring China back to the historical trend.

This leads to the second way the discussion needs to be broadened. The economics of incentives tells us that within an organization there is generally a trade-off between the “observability” of an indicator and its “closeness of



**Figure 1.** Reduction in energy intensity.

Source. National Bureau of Statistics. Originally reported data: *China Statistical Yearbook* 中国统计年鉴, 2009: 273; revised data, *China Statistical Abstract* 中国统计摘要, 2013: 135.

fit.” Anytime a success indicator with rewards attached is established, the principal must anticipate that the agents will devote some effort to manipulating their score on the success indicator, in ways that may not be related to what the principal actually wants the agent to achieve. Therefore, the principal must compromise to get the best of both worlds: a success indicator that is observable but that is *also* a close fit to the desired ultimate outcomes. The Eleventh Five-Year Plan, as HM point out, was a visionary plan that called for a transformation of the growth model to a more balanced, more knowledge-intensive growth path with a lighter environmental footprint. This was the ultimate objective, and it was in service of this objective that the energy-intensity indicator was adopted. Did the Eleventh Five-Year Plan achieve this transformation of the growth model? It did not. HM agree that “transformation of the growth and development mode” was an area in which “government planning and intervention have proven largely ineffective.” Furthermore, “the least successful element of the . . . energy intensity campaign was the effort to push the economy away from energy-intensive industries and toward services.” This is a more damning comment of the new planning process than the authors acknowledge: it implies that planners incentivize energy intensity because it is a target they can observe, and which they can disaggregate to individual factories; but that it does not really achieve a changed economic

structure, which is their fundamental and true objective. Or, to go back to the original two definitions of planning, because their instruments were inappropriate and ineffective for achieving the planned *operational outcome* they wanted, they instead fell back on plans as *resource-allocation mechanisms* because that way they could monitor and reward compliance. But isn't that what the command economy was in the first place? Isn't the whole point that this approach doesn't work?

Does it make sense to celebrate the near-achievement of a single targeted objective when the broader goal of harmonious, proportionate development is not being achieved at all? In a sense, this kind of target-setting really isn't "planning" at all. As HM note, this was a single objective that was a very high priority of individual leaders, and especially of Wen Jiabao. Because it was a top leadership priority, the NDRC administrative apparatus was used to create incentives for compliance with that objective up and down the hierarchy. The NDRC was a tool to impose a politically determined objective on the economy primarily through administrative (i.e., non-market) means.

This is not automatically a bad thing. Politically determined objectives can be legitimate and the costs of imposing them on a market economy may be reasonable. Indeed, in California, where I live and work, the state government engages in substantial target-setting of this type, particularly in the area of environment and sustainability. The state's Air Resources Board, through regional planning boards, sets greenhouse gas emissions targets for 2020 and 2035 for each of the state's eighteen major urban areas, and the state mandates that electric utilities source 20 percent of their power from renewable sources.<sup>2</sup> Some people object to these measures because the costs of the mandates are buried, but they work reasonably well, have retained broad popular support, and help set the national agenda for more constructive solutions. The difference is that we do not delude ourselves that this is planning: California is *not* planned. This is a second-best way of apportioning the cost of achieving an objective that the people of California (through their elected representatives) have shown that they value. A second point follows from this: Whatever the costs of this politically determined "distortion," it is unlikely to be significant in the context of the California economy, which has an extremely sophisticated and virtually complete set of market institutions. Yet even in California, it should be obvious that we can't just keep on piling up government-imposed distortions for any public objective. We would quickly be in the position of creating costly complications and difficult-to-navigate environments. Shouldn't this be even more of a worry in China, where the market economy coexists with numerous distortions, underdeveloped institutions, and actors who have incentives to invest in projects with zero returns? We should be very cautious about imposing additional distortions,

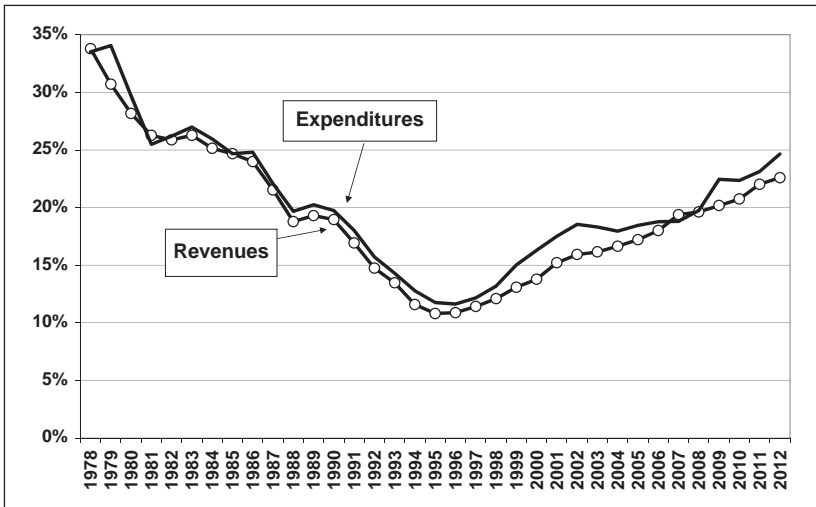


particularly if those imposing them are under the illusion that they are planning the economy. Greater attention to the distinction between different contested meanings of “planning” might bring these issues into greater clarity.

My comments on this question have strayed steadily from positive into normative territory. HM would doubtless reply that the actual circumstance of Chinese government and market actors is that they navigate through an extraordinarily complex mixture of market and political signals, and we must try to understand these as they are. While this is true, planning as an activity fundamentally involves norms from the beginning—it necessarily involves influencing behaviors to become more consistent with a politically generated set of objectives. Thus, understanding the process must, it seems to me, require a closer specification of the objectives, the instruments, and agencies involved in planning. A similar query can be posed to Hu Angang’s very useful and powerful characterization of the planning process as “laying a foundation for consensus on the implementation of the official policy” This important insight leads us to ask, “what happens after the consensus is created?” Is the consensus simply used by independent actors as their preferred forecast of the future? Obviously not. Perhaps it is a consensus view of what government will be attempting to achieve. In any case, the consensus itself is also part of an interactive game, in which government not only declares its objectives and intentions but also takes specific steps to influence behavior. Other agents believe these intentions to a lesser or greater extent, and adapt their own behavior accordingly. The current (2011–2015) Twelfth Five-Year Plan is a consensus document, but, halfway through, to what extent do individuals today believe that the plan’s vision of China’s economy in 2015 will be realized? It would be interesting to hear Hu develop this line of analysis further.

### **Is the “Reinvention” Narrative Convincing?**

A further merit of the HM article is that it provides a strong organizing narrative of the evolution of planning in China over the past thirty-plus years. In this narrative, the old-style planning, having failed, collapsed altogether around 1993. Planners then went back to the drawing board, rethought, and gradually put together a new form of development planning that was appropriate to—and uniquely integrated with—distinctive Chinese institutions. Subsequently that vision of development was gradually adapted and, as experience was gained, rolled out on a large scale. The narrative trajectory is similar to the one advanced by Huang Yasheng, in which 1993 is seen as the turning point that begins the creation of state dominated large-scale developmental, financial, and investment institutions (even though Huang views this



**Figure 2.** Budget share in gross domestic product (GDP).

Source. National Bureau of Statistics. *Statistical Abstract of China* 中国统计摘要, 2013: 19, 72.

as entirely negative) (Huang, 2008). It might be useful to contrast the HM story with an alternative narrative. The alternative version begins very much like the HM narrative, with the collapse of old-style planning in 1993. The demise of traditional planning at that time went unmourned, because policy makers were preoccupied with building the institutions of a market economy, ones that functioned reasonably well and with adequate efficiency. In fact, the defining feature of this other version is that the period from 1993 to 2003 stands out as a successful period of marketization and institution-building. In terms of planning, as HM describe it, “plan functions were curtailed and redirected to give macro-guidance to the transformation of the economic structure along with market-oriented industrial policies.” By the end of the 1990s, Zhu Rongji “finally eliminated altogether the practice of setting imperative economic targets.” The curtailment of planning in this period was surely influenced by the fact that policy makers simply did not have the resources to indulge in grandiose visions—as Figure 2 shows, budgetary revenues in the mid-1990s had fallen to near crisis levels. System transformation was of necessity at the top of the policy agenda. During this period, economists and policy makers continued to discuss new forms of planning, but these were focused on diverse ways to achieve operational outcomes, and included agencies like the central bank or Ministry of Finance as important executors of the planning function.

However, there was a second turning point, after 2003. Only after the end of the 1990s did it gradually become clear that successful economic reform had brought China out of an era of budgetary crisis, both by restoring the integrity of China's government budget and by kicking off a new round of economic growth in the 2000s. As a new leadership assumed power after 2002–2003, their initial instincts seemed to be to continue economic reform while improving popular welfare by rebuilding social security institutions and increasing social expenditures. At the Third Plenum in 2003, the broad agenda of the new Wen Jiabao administration was still focused primarily on economic reform. The plenum itself, like other famous Third Plenums in history, produced a strong document that outlined measures to “complete the [transition to] a market economy.” Yet almost none of the proposals in the Third Plenum document were actually implemented. Instead, Wen Jiabao got distracted from the reform agenda by the need to deal with macroeconomic imbalances, by the increased salience of his social and technological agenda and also, perhaps, by the huge sums of money increasingly available for various government undertakings. As Figure 2 shows, the government revenue share of GDP doubled, even as the total size of GDP increased around eightfold. The NDRC offered Wen and other leaders the apparent opportunity to achieve their ambitious objectives by direct action.

The first effort to accomplish all this in an integrated package was the Eleventh Five-Year Plan, drawn up in 2005. It was a high point, as HM point out, but also a watershed: a visionary document drafted through an attractive consultative process (described by both HM and Hu Angang), the plan laid out a transition to a more balanced growth strategy. However, the plan was not effective, in part for the reasons discussed above. Instead of producing a more balanced economy, the economy became much more unbalanced as trade surpluses ballooned (in 2007) and the investment rate was pushed up to unprecedented heights (Lardy, 2012). After the global financial crisis, the government's willingness to intervene directly in the economy expanded enormously. At the same time, in pursuit of various policy goals, Wen Jiabao started to use these bureaucratic instruments more and more. Industrial policies proliferated along with new social programs (Naughton, 2011). Ultimately, though, the shift toward more planning after 2003 has *not* been accompanied by adequate further movement toward a well-functioning market economy. In that sense, it is not surprising that new forms of planning designed to be consistent with, and supportive of, the market economy have also not been able to achieve their objectives.

The key fact that needs to be incorporated is that China's actual growth strategy has been an extremely unbalanced one, driven by massive and historically unprecedented rates of investment. Yes, China's economic growth

has been genuinely impressive and indeed world-altering, but it is not planned, proportionate, or harmonious. After the 2003–2004 turning point, as the marketization agenda stalled out, the Wen administration responded with ever more initiatives to upgrade the economy and promote government investment in new areas. There are many ways that forward-looking planning can improve the performance of an economy, but the imposition of multiple plans on the economy also has costs, and can reduce the flexibility and resilience of the economy. Over the long run, it may erode incentives and hold back productivity improvement in the economy. In that sense, reformulated planning—as it actually exists—ends up holding back the development and upgrading of the economy.

Each of these narratives oversimplifies the complex Chinese reality, but they can organize future discussion. The first narrative generously accommodates the planners' version of the world, while the second is harshly critical of China's current economic conditions: the truth lies somewhere in between. Heilmann and Melton have set the terms for deeper discussion of the role of planning in China. Now that they have set the agenda, I am left with two unanswered questions: The first is, "are the instruments that Chinese planners currently dispose of the appropriate ones needed to shape developmental outcomes in ways that are positive for China?" The second is, "has the increase in planning since 2003 improved the flexibility and sophistication of the Chinese economy, and nudged it closer to a desirable growth path?" Current evidence really does not allow us to answer these questions in the affirmative, and therefore China's "reinvention" of planning is still incomplete.

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### **Notes**

1. Moreover, a crucial step in this transformation came precisely when Deng Xiaoping, in 1991–1992, accepted the distinction between resource-allocation mechanisms and fundamental social systems. In Deng's folksy formulation, the market mechanism was not a purely capitalist institution, and it was not appropriate to ask whether institutions were "surnamed socialist or capitalist."

2. The state also mandates that any company producing automobiles for sale in the state must offer a zero emissions vehicle as well. See descriptions of the relevant regulations at [www.arb.ca.gov/cc/sb375/sb375.htm](http://www.arb.ca.gov/cc/sb375/sb375.htm) and [www.climatechange.ca.gov/climate\\_action\\_team/reports/catnip/energy/Energy%202%20Renewables%20CATNIP.pdf](http://www.climatechange.ca.gov/climate_action_team/reports/catnip/energy/Energy%202%20Renewables%20CATNIP.pdf).

## References

- GE YANG 戈扬 and HUO KAN 霍侃 (2013) “刘鹤探寻中国改革之路” (Liu He searching for a Chinese road to reform). 财新网, Mar. 29. <http://video.caixin.com/2013-03-29/100508028.html>.
- HUANG, YASHENG (2008) *Capitalism with Chinese Characteristics: Entrepreneurship and the State*. New York: Cambridge Univ. Press.
- LARDY, NICHOLAS (2012) *Sustaining China's Economic Growth after the Global Financial Crisis*. Washington, DC: Peterson Institute.
- NAUGHTON, BARRY (2011) “China's economic policy today: the new state activism.” *Eurasian Geography and Economics* 52, 3 (May–June): 313–29.
- State Council (2013) 国务院批转发展改革委等部门关于深化收入分配制度改革若干意见的通知 (Transmitting various views of the NDRC and other departments on deepening the systemic reform of the income distribution system). Guofa [2013] no. 6, Feb. 3. [www.shaanxi.gov.cn/0/1/9/39/138946.htm](http://www.shaanxi.gov.cn/0/1/9/39/138946.htm).
- WADE, ROBERT (1992) *Governing the Market: Economic Theory and the Role of Government in East Asian Industrialization*. Princeton, NJ: Princeton Univ. Press. 2nd ed., with new introduction, 2003.
- WU JINGLIAN ([1991] 2013) “A discussion of plan and market as resource allocation mechanisms.” Pp. 213–30 in Barry Naughton (ed.), *Wu Jinglian: Voice of Reform in China*. Cambridge, MA: MIT Press.

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