

Can the State Create Cooperation?: Problems of Reforming the Labor Supply in France

PEPPER D. CULPEPPER *Kennedy School, Harvard University*

ABSTRACT

Governments in the advanced industrial countries increasingly rely on supply-side reforms to intervene in the economy. This article examines one such reform, that of vocational education and training in France, whose successful implementation required that private actors cooperate not with the state, but with each other. As demonstrated through an empirical analysis of two employment zones, theories of institutional design that underscore the necessity of sanctioning cannot explain the successful emergence of cooperation, because new sanctioning regimes lack credibility under the uncertain conditions of economic reform. The primary obstacle to successful implementation of these reforms is uncertainty about the consequences of reciprocal cooperation, and the article highlights the mutual roles of states and employers' associations in overcoming this uncertainty. Active collaboration between policymakers and employers' associations, which have uniquely good access to private information about firms, is necessary to enable state policies to target those firms which are the most likely potential cooperators.

If the real world worked like Robert Axelrod's (1984) famous computer tournament, then the provision of public goods would be an easy thing: actors using cooperative strategies would jointly benefit from their interaction with other cooperators in the population, and the cooperative cluster would by evolution outpace its greedy, short-sighted competitors. For actual governments trying to convince real private actors to cooperate with each other in order to produce public goods, however, Axelrod's wisdom seems like one more bit of academic arcana with little relevance for public policy. For such governments, creating private cooperation is a frustrating object of policymaking, because they cannot merely pass a law to make it so: implementing these policies requires that they convince private actors to cooperate with one another. This article is an inquiry into the conditions that determine the success or failures of such policies.

The problem is anything but academic for governments in the capitalist democracies which are trying to implement policy changes on the supply-side of the economy, at a time when the apparent effectiveness of Keynesian demand management has declined sharply. Supply-side policies attempt to create the conditions that can enable companies to be more competitive in the international economy, particularly by enhancing their access to skills, new technologies, and new practices of business organization (Soskice 1999, Hall and Soskice forthcoming). Yet it is difficult to establish policies like these, because they ask private actors to change their previous patterns of indication in order to deliver to the economy a public good. Vocational training reform, the policy area examined in this article, is paradigmatic of such policy areas. A skilled labour force is a collective good when the creation of a deep occupational labor market, in which a large proportion of workers have broad training in intermediate skills, allows companies to use these workers to produce goods for high-value export markets contested primarily on the basis of quality rather than price (Streeck 1991, Soskice 1994). This is the basis for the resilience of German export performance over the last decade, even as numerous internal rigidities have given rise to questions about the future of the German model (Streeck 1997, Thelen 2000).

The creation of such a skilled labor force requires individual companies to invest in the provision of apprenticeship training for skilled workers, which leaves these companies open to the possibility of being burned by other companies which poach their newly trained skilled workers before they (the training companies) have been able to benefit from the human capital investment. Once a sufficient number of companies has been persuaded to invest in this sort of training, the occasional losses suffered by individual companies can be compensated by the depth of the labor market. But since individual companies have an incentive to free-ride on the efforts of other training companies, the *creation* of a skilled workforce through employer-provided training generates a free-rider problem. How to get companies to cooperate despite the temptation to free-ride is the problem that faces the French government in its quest to reform the system of education and training, and it is an experiment of interest to the many policymakers in the advanced industrial countries that want to imitate the German high-skills equilibrium.

The problem of public good creation is particularly knotty for the French, given the prevailing Tocquevillean diagnosis of the society as one in which mutual cooperation has proven difficult to generate in the wake of a long history of heavy state intervention (Crozier 1964, Levy 1999). Three legislative reforms (in 1984, 1987, and 1993) com-

bined to create new, more attractive certifications of vocational qualification in which companies could invest. The national government established subsidies to entice companies to participate in these new programs, and at the same time regional governments set up joint union-employer representation bodies to supervise the implementation of training policies. What successive governments could not do was decree the participation of companies in the system; and without the participation of the companies, the reforms could not succeed.¹ In this paper data collected from companies in the French metal-working industry are used to assess which conditions determine the difference between success and failure in eliciting this cooperation from companies.

The next section of the article sets the agenda by examining recent work in political science that speaks to the problem of developing cooperation. The discussion takes as its starting point the work of Elinor Ostrom, contrasting her sanctioning-based model with a learning-based mechanism for understanding the emergence of cooperation. The latter approach, it is argued, is likely to be analytically superior for examining success or failure in creating cooperation through potential reform, as a result of the uncertainty generated by state-led changes to the political economy. The third section compares the experiences of metal employers in the French employment zones of the valley of the Arve and the Vimeu in light of the analytical questions posed previously. The final section draws larger political implications for governments trying to create cooperation *de novo*.

I. Learning under Uncertainty

While social scientists have done a good job of showing why public goods dilemmas are hard to overcome, there is relatively little work on how states can actually help private actors to overcome them. States cannot simply mandate the solution, because what the government is trying to achieve is a *voluntary* commitment from private actors to abstain from free-riding on each other. In her landmark study of common pool resource dilemmas, Elinor Ostrom (1990) has shown that change in such a process must be incremental: given the uncertainty involved in creating societal cooperation *de novo*, individual actors will take only small steps toward cooperation, when cooperating always creates the potential that they will be exploited by someone else's opportunism. An incremental process allows actors to build confidence in the cooperative behavior of others, without forcing them to take a large leap of confidence that may result in a large loss. What allows

these steps to build on one another, such that the willingness of actors to risk cooperative behavior grows over time?

Ostrom (1990, 1998) has two responses. First, by using ‘cheap talk’ (communication which establishes agreements that are not enforceable), participants can thwart the expectations of non-cooperative game theory and begin to build trust. And second, they establish graduated enforcement mechanisms to allow potential defectors to learn about the costs of defection without being ostracized (at least, initially). Note that the graduated sanctioning mechanism is of crucial importance for Ostrom’s model because of its role in punishing defectors: these players learn about how others will respond, but just in case they are tempted to defect, they are rapped on the knuckles to remind them (and others) of the costs of non-cooperation. Ostrom goes on to enumerate trust, reputation, and norms of reciprocity as the three core relationships that support each other and serve as the building blocks from which individuals overcome social dilemmas. The capacity of people to learn norms, combined with the observed role of face-to-face communication in facilitating the establishment of trusting relations, provides Ostrom’s mechanisms for understanding the emergence of cooperation: communication builds trust and circulates information about reputations, and the capacity to learn norms of reciprocity stabilizes, then reinforces, newly established reputations.

Ostrom has successfully advanced understanding of the origins of successful cooperation by underlining that innovation in social dilemmas depends on what actors learn about their strategic situation. Yet the claim put forward in this article is that they do not just learn about their strategic situation: they also learn about how the world actually works. In other words, their problems in such a reform are not only strategic, they are also cognitive. Ostrom’s actors are learning ‘to trust,’ or at least learning to understand the likely behavior of other actors (given the incentives associated with a new set of rules). But her actors only learn helpful norms or about the strategies of other actors; the claim put forth here is that, in so doing, they also better understand the causal mechanisms at work in the world, and *ipso facto* their own interests. This seems obvious but is not: the assumption underlying Ostrom’s work, along with the game theoretical literature that inspires her research, is that actors understand their own interests and the likely returns to a course of action, conditional upon knowing the choice of another actor. Yet actors not only possess imperfect information about the behavior of other actors; they may not understand the returns to their own choice, even when they know how others will respond, a situation that Iida (1993) has called analytic uncertainty.

In the transition from the payoff matrices of game theory to the real world of policy reform, uncertainty is one of the conditions that grows exponentially and multi-dimensionally. The effects of some sorts of informational uncertainty (e.g., about the likely responses of other actors in a cooperative dilemma) have been extensively analyzed (Kreps, Milgrom, Roberts and Wilson 1982, Fudenberg and Levine 1998). In addition to uncertainty about the response of other players to reforms, public policies that attempt to establish new institutional relationships among actors create at least two additional sources of analytic uncertainty: how well new institutions will play their legislative mandated role of facilitating cooperation, and whether or not the causal premises of public policymakers are indeed correct. To be very concrete, does the investment in firm-level provision of general skills indeed provide the higher joint payoff promised by the government? This is itself uncertain to the managers and personnel directors of firms in reforming political economies, and it is for these actors that experiential learning becomes crucial.

Under the uncertain conditions of political economic reform, managers will not often find newly established sanctions – even the sort of gradual sanctions discussed by Ostrom – to be credible. However, to an actor vacillating between the choice to defect or to cooperate, being embedded in a cooperative relationship can provide positive demonstration effects both of her own high returns to cooperative behavior and the high returns to cooperation secured by other cooperators. In the case of vocational training reforms, for example, companies train their own apprentices and learn directly about those benefits and costs. If they are engaged in a training center with other firms, in which human resource managers frequently exchange information via training personnel of the center, these wavering company managers also observe other companies training apprentices, and they observe these other companies reaping the return to that investment. Nothing changes within the individual company, at least not radically: the company is as interested as before in making money. But it has gained information that allows it to improve its estimate of the returns to cooperation. Thus, the confidence of the company's managers is reinforced that cooperative behavior does indeed generate the returns attributed to it by policymakers.

For Ostrom, who assumes that the returns to cooperation are evident, this stage is vacuous: the returns to cooperation are what they are, everybody knows it, and the primary question is whether or not to trust the motives of others. Once one recognizes that the returns to cooperation are unclear, both from one's behavior as well as from the choices of other actors, then the learning stage becomes crucial. Under-

standing the role of learning is important in considering how individual actors conceive the potential losses from engaging in non-requested cooperation: in particular, the (eminently reasonable) postulate of this article is that the expected value of a decision to cooperate rather than defect varies from one actor to another. The potential loss is a function of individual interests in the prospect of cooperation, and if interests are distributed heterogeneously in the population – which they are – then so is the risk of this potential loss.

The reason it is important to understand risk is that the potential for loss is what keeps actors from cooperating. The heterogeneity of interests, and thus of risk, means that the probability of any one actor cooperating depends on her or his risk threshold. The most likely future cooperators are those for whom the perception of the risk to cooperation just exceeds its perceived benefits. Throughout this article, these actors are designated as ‘waverers’, since they waver on the border between cooperation and non-cooperation. How the waverers act has much to do with determining whether cooperation succeeds or fails; they are the key actors in creating wider cooperation, for if one can explain why one waverer comes on board the cooperative enterprise, one has a much better idea why others might or might not. Yet this risk threshold is not public information, and on that fact turns much of the practical relevance of employers’ associations for facilitating the emergence of cooperation.

Employers’ Associations and Private Information

The expected gain from cooperation and the expected loss from defection constitute privately held information, and actors will not reveal their true risk thresholds to just anybody. Certainly, in the cases studied here, actors (firms) will not reveal this private information to the state, which they inherently distrust. Their motives can be seen as strategic (because they want the government to bear as much of the cost of a public good as possible) or ideological (because they believe this is none of the government’s business), but the empirical fact is that companies do not readily volunteer private information to the state (Finegold and Soskice 1988). However, firms are often willing to trust associations that represent them. These associations, supported by companies, are rightly perceived to be trustworthy by the individual companies whose dues support the association. This is not so much an issue of control – i.e., companies trust the association because they control it – since only the largest companies can feel that this is even partially true. Rather, it hinges mainly on reputation: the association cannot play its job of technical and social support without having a

reputation for being a reliable guardian of information – because the other companies belonging to the association are also competitors (Kreps 1990, Ostrom 1998). Each individual company knows that the association will cease to be effective once its reputation for confidentiality is breached, and thus it is confident that sensitive information will not be circulated.

No other actor is likely to have this same perspective on a broad number of company risk-thresholds in the political economy, which means that the association must be a central actor in the organization of any new cooperation. Soskice (1994) attributes to these groups an informal sanctioning capacity that allows them to discipline members and encourage compliance; this claim has been challenged empirically and is in any case unnecessary for the position of employers' associations in facilitating the emergence of cooperation (Culpepper 1996). Like Ostrom, who strongly argues the importance of graduated sanctioning mechanisms to establish new cooperation, Soskice's actors must also be kept in line by a mechanism that makes defection less attractive. If the learning argument explicated here is correct, though, actors can be encouraged to cooperate by improving their estimates of the payoff to cooperation, without requiring a sanctioning mechanism to increase the price of defection.

The role of the employers' association in this process is threefold: identify the most likely cooperators, develop a program that can appeal especially to these firms, and then mobilize them around the project of cooperation. The information to which the association has privileged access enables it to identify the cohort of those firms most likely, by virtue of their risk thresholds, to be susceptible to being persuaded to cooperate. Moreover, this access to information gives the association insight as to how best to overcome that risk threshold: in other words, the association understands what might motivate companies to cooperate, given their existing thresholds of risk. The second associational project is derivative of its capacity not merely for information-circulation, but also for deliberation – that is, to serve as a center for coordination and strategy development among boundedly rational actors (firms), which not only have to bargain over their divergent interests but also need a strategic capacity to help them develop responses to a constantly changing environment (Hall and Soskice forthcoming). The third role is that of exhortation and the use of moral suasion to convince companies to engage in cooperation. The association is the collective representative of individual firm interests, and so it is not (principal-agent problems aside) subject to the free-rider problem of collective good provision. While individual companies may have no reason to contribute to the provision of a collective good, an association

does; its entire reason for being is to pursue interests declared collectively good for the membership. And, just as its information is good, so too are the levers it can use to mobilize members. While the association in most instances lacks the ability to threaten credibly, it can certainly cajole members and remind them of their collective responsibilities. Again, the fact that it is the representative of company interests grants these claims a good deal more legitimacy than similar claims from the state or from other organizations in the economy.

All this makes the presence of a strong employers' association the prerequisite for cooperative success. Yet identifying the most likely cooperators is no good unless they can be convinced to change their estimate of risk, which returns the analysis to the problem raised by Ostrom, although the field of actors has been more tightly delimited than in her work. And this delimitation is no small thing on the road to cooperation, because the risk threshold of these actors is easier to change, such that they can be convinced of the merits of cooperation. Ostrom's presumption is that some factors can increase the probability of developing new rules for achieving collective goods, and this is true across the population of affected actors. Identifying a narrower subset of potential cooperators focuses attention on the possibility of selective measures in facilitating cooperation. Unlike 'size of the group' or 'low transformation costs,' which are situational variables that are difficult to change, the risk thresholds of a subset of actors are more tractable for actors (or governments) that want to change the short-term payoff structures of certain actors so as to generate long-term cooperation.

Ostrom tacitly accepts an assumption which, though it need not inhere in the tenets of the collective action problem, has come to characterize the work on decentralized cooperation: that this cooperation needs to be spontaneously elicited from actors, based on the existing incentives. However, collective action problems do not entail that all must bear the same costs, which is why a governmental Leviathan or some subset of actors may be willing to contribute more than average to the provision of the collective good. As Marwell and Oliver (1993) among others have shown, it may well be rational for this subset to pay some of the start-up costs of cooperation even though others will free-ride (cf. Heckathorn 1996). In cases like the one examined in this article, where the state is trying to convince private actors to begin cooperating with one another, it is reasonable to assume that the state will be willing to help pay these start-up costs. Thus, these are the conditions for trade: the state particularly wants to see cooperation get started, while other actors are close to being persuaded of the benefits of cooperation but would like to see their risk reduced.

How can the trade be structured? It must respond to risks perceived

by the waverers in order to convince them of its merits, and it must hold out the promise of convincing the waverers to become stable cooperators. Think of this as nothing more than a transitional aid package, aimed to get waverers over the barrier to initial participation and into the virtuous circle where cooperation breeds future cooperation. Again, because the association knows the actors' needs well, it is also well-placed to identify what form of risk reduction they would find most useful. To maximize the probability of the aid's being transitional, though, the state should structure the aid to allow companies the chance to learn about the benefits of cooperation. The transitional aid, in other words, will serve as an apprenticeship in cooperation.

The arrangement is transitional because the waverers revise their assessments of the expected return to cooperation in light of their learning, and thus they will not need subsequent aid to continue to cooperate. It is for this reason that the state is willing to invest in the aid. In future rounds of play, it expects not to have to support the waverers – or at least, not the same group of waverers – because they will no longer be waverers. Their expected return to cooperation is now high enough that they cooperate of their own accord, because they now view it as in their interest to do so. The goal of this article is to highlight the respective roles of associations and of the state in subsidizing waverers in order to increase their estimates of the expected return of cooperation, as a means of turning them into durable cooperators.

II. Evidence from French Industry

In this section the propositions derived in the previous section are confronted with evidence on the response of French companies to three legislative changes in the system of in-firm vocational training, which together represented a sustained initiative to increase the investment of companies in apprenticeship-style training. A 1984 law established new youth work contracts, of which the most important (the qualification contract) would eventually rival apprenticeship; a 1987 law expanded the eligibility of apprenticeship, allowing it to be used for educational qualifications beyond the level of secondary school diplomas; and a 1993 law, called the Five-Year Law on Work, Employment, and Professional Training, attempted to provide coherent governance of the new system through a clear delegation of power to the regional councils to manage youth training measures. These legislative measures had multiple objectives, but the common thread running through them was to make in-firm vocational training more attractive to companies so that those companies would begin to invest substantial amounts in training young people. The problem, of course, was one of

cooperation: for any given company, it makes more sense to let other companies invest in training young workers, and then to poach the freshly minted trainee from the training company in order to reap the rewards of having a more highly-skilled worker (Becker 1964). If enough companies could be persuaded to make this investment, then the attractions of defection would decrease, and the potential returns to cooperation would become positive (Soskice 1994). The question facing successive French governments was how to effect this transition successfully.

To evaluate the success of these reforms requires evidence of firm-level investment in training, which has in the past proven very difficult to estimate accurately.² As part of a research project on the politics of creating cooperation in the area of vocational training, the author assembled firm-level evidence from companies in the metal-working industries in five French employment zones.³ Measures used to assess the investment of individual companies in their trainees include the number of trainees hired as a proportion of all workers and the rate at which those trainees are hired by the same company after being trained. Those companies which invest little in their trainees will not be interested in retaining them afterwards, whereas those which have in fact invested heavily in their trainees will go to great lengths to hold onto them (and thus be able to get a return on their investment). These French vocational training reforms were largely inspired by the western German training system, so appropriate ranges from companies in the metal-working sector in western Germany have been used in order to classify company training behaviour as constituting high or low investment in youth training contracts.⁴ Individual firm training practices have been assembled into aggregate measures of cooperation at the level of the employment zone in the area of training. While the French government has expended substantial resources to evaluate the success of the reforms of the training system, it has not yet collected the data on firm-level training and post-apprenticeship retention of trainees that are necessary to evaluate the contribution of companies to the provision of the collective good of a skilled labor force. The firm-level data support many of the official criticisms of the institutions of the new system, but they provide an additional window on the micro-foundations of institutional change, which has been lacking thus far in discussions of the French training policy reforms.⁵

The empirical comparison in this section focuses on two structurally similar employment zones: the Arve valley and the Vimeu district. The Arve valley has been the site of successful cooperation in the area of training reform, which the Vimeu (like most of the rest of France) has been unable to replicate. The two areas are especially good for compar-

ison because they share several socioeconomic characteristics: both feature an industrial tissue made up predominantly of small and medium-sized enterprises (SMEs) which are suppliers for larger firms, and these two zones represent the two largest concentrations of firms producing for the bar-turning industry in France. Moreover, firms in both zones have faced in acute fashion the shortage of skilled labor that has motivated the French reforms of the 1980s and 1990s, and the local employers' associations have attempted to craft responses to this problem using locally implanted technical centers. In this comparison of most similar systems the question is, what variable enabled success in the Arve that was lacking in the Vimeu?

Valley of the Arve

Nestled in the Alps near the border with Switzerland, the Arve valley accounts for almost two-thirds of the total employment of the French bar-turning industry, a metal-working sector consisting almost entirely of suppliers and dominated by SMEs (Poleyn 1996). In the mid-1980s the firms in the industry faced a problem of acute labor shortage that prompted the sectoral association to devise a set of new skill certifications using the new professional certification created by the 1984 reform (the qualification contract). The sector employers' association is located in the valley, and it was able to take advantage of this proximity to solicit a broad range of input from companies in the industry about the necessary profile of skilled workers, despite the diversity of product market strategies among these companies. Using the information thus gathered, the association was able to get four new skill certifications approved at the national level in 1989; three further certifications would be developed and approved by mid-1992.

The decision by the association to create the new qualification certificates was accompanied by a move to embed the training function in the association's existing technology transfer center. The association drew up a proposal under which it would share the costs of upgrading the training equipment of its technical center with various governmental agencies, allowing for a total new investment of more than 13 million francs. This investment enabled the technical center to boost both the quality and quantity of training machinery available to it, to increase its training personnel, and to do all this in a training center that was physically close to most of the firms demanding the training (Guichonnet 1998). Under the rubric of the '1000 Technicians' program – i.e., with a stated goal of training 1000 new technicians in ten years from 1989 to 1999 – the technical center of the association launched a vigorous campaign to convince firms to invest in the new

training program and to attract young people to the bar-turning industry.

The adoption of these qualifications and the announced goal of producing 1000 new technicians before the end of the century was only the first step – and not the most difficult – on the road to cooperation. To succeed, the association would have to convince individual companies to invest in this training program, even though there was no way to protect them from having their skilled workers poached from either neighboring French firms or (higher-salary) Swiss firms over the border. Yet by the target date of June, 1999, 1022 technicians had already been trained, thus actually surpassing its goal. One of the best indicators of a firm's net investment in youth training is the rate of post-training retention of trainees; if firms bear substantial costs in training young people, they want to capture the return to that investment by retaining the newly hired skilled worker. More than three-fourths of the young people trained in qualification contracts through the technical center of the bar-turning industry were retained by the firm that trained them; the comparable rate for firms across France using the qualification contract is only 29 percent (Charpail and Zilberman 1998, CTDEC 1998). The author's sample of bar-turning companies in the Arve valley confirms this trend toward high-level firm training practices: firms in the sample trained at high quantitative levels and afterwards retained 88 percent of their trainees, both levels that far outstrip the training results achieved in the other French employment zones studied.

How did the companies in the Arve succeed where so many other French experiments in cooperation have failed? The prerequisite of this success was the ability of the association and its training center to collect sensitive information about companies' training needs while ensuring the companies that this information would not be used in ways contrary to their interests. As one firm manager from the area reported in an interview, 'Among firm managers, training is not a subject that one discusses easily with the others. . . . The exchanges [of information] at the [the sectoral association] are very general and always anonymous, and the people at the [the technical center] work under the obligation of professional confidentiality.' The secretary general of the sectoral association spoke in the same terms of the importance of confidentiality for the association's mission: 'there are firms that are worried about exchanging information through us, but we try to maintain a certain code of ethics: it's the general interest of the bar-turning industry that we try to defined here, we do not do things to give an advantage to one single firm. When someone shares confidential information with us, which happens sometimes, we do not let it become public.'

The reputation of the association for confidentiality is particularly important because, contrary to the expectation of the social capital theorists like Robert Putnam (1993, 2000), the Arve valley is no haven of trusting choral singers. Several representatives of firms mentioned the high level of distrust that characterized the valley, because the competition among companies is so intense. One manager recounted as illustrative of the mentality of the valley that he would not allow his cousins to visit his plant, for fear of giving away important information; and his cousins reciprocated the sentiment. Managers of these companies are not blind trusters, but they know that they have some problems whose resolution requires them to open themselves to the risk of predation by others, and the role of the association is vital in facilitating the secure exchange of information among these wary actors.

Given its access to information about the needs of private companies, the association then attempted to design the '1000 Technicians' program so that it appealed to those firms most likely to be convinced of the merits of training: the waverers. Asked why there has been such a rate of success in the valley of Arve, the director of the technical center notes that the program has been targeted at those firms planning to retain the apprentices. That is, those most interested in using the training contracts to make serious investments in human capital: 'other places in France, the big firms take 20 young people [in a training contract], and only want to hire one. Our firms take one young person, and want to keep [him or her]. [And] the young people stay in the firms [that trained them].' Indeed, the problem of guaranteeing firms that they will not lose their investment in the training contracts through poaching has been central to the Arve program. They unsuccessfully lobbied the national government in the 1990s to support a measure that would allow companies to bind apprentices to the firms after their training as a way to overcome the central worry of the waverers: that their investment in training would be poached by other, non-training firms. In other words, the association tried but failed to establish a sanctioning mechanism that could limit poaching.

Another source of uncertainty for waverers is the intrinsic value of the new training contracts, particularly given their past experience with the national education system, whose vocational training they universally deplore. Having conducted a survey of firm requirements for training, the personnel at the technical center for the bar-turning sector knew that the level of training needed to be clearly superior to past alternatives to attract waverers. As one firm manager noted, 'if we had been satisfied by the national education system, we would not have needed this 1000 Technicians program. The education ministry does

not sufficiently prioritize technical education, and so it does not invest enough.' By contrast, the association and the technical center pushed for a heavy investment in new machines that could convince company managers like this one that the investment in human capital development would be worthwhile. Having made this investment, the technical training center could then more credibly mobilize companies to begin using training contracts; it could take existing government subsidy programs and propose a clear risk reduction to companies: 'you get some money to cover training, and you know our center has the capacity to produce highly skilled workers.' In other words, the potential losses to cooperation are decreased (because the reputation of the association for training expertise is established), and the potential gains increased.⁶

All firms in France have access to the same subsidies available to the firms in the Arve valley. If the theory of learning elaborated in this article is valid, though, the expectation must be that the 1000 Technicians program has been successful in making the aid purely transitional. As their trainees go through the training program, firm managers and personnel directors can observe first-hand whether or not the investment in cooperation is indeed a good one. If it delivers the benefits promised, then one would expect them to increase the expected value they assign to training, and to be willing to train in the future without the transitional subsidies. In the sample of companies assembled by the author, all of the companies currently training in the Arve say that they would now continue training without subsidies. In the sample of companies from the Vimeu, by contrast, four of the five companies training say they would train fewer trainees in the absence of subsidies. One firm manager from the Arve, who in the past had tried to poach from other firms rather than train himself, was surprised to discover the non-visible benefits of youth training: 'Without a doubt, youth training costs more than going to hire somebody already trained, but it changes the atmosphere in the company, which is better than before. Previously, I would hire trainees from other firms, and it was difficult to change them: they had their habits, their manner of working, and change was difficult. But young people, they are brand new, you can train them the right way [from the beginning].' As in this case, subsidies have helped companies in the Arve to make the decision to begin training, and their experience in cooperative training has already led them to revise upward their estimates of the returns to that investment in human capital development.

While this evidence suggests that SMEs in the Arve have learned more about the benefits of cooperation than their counterparts elsewhere in France, can the evidence distinguish between the conception

of learning developed in this article and that of Ostrom? Recall that Ostrom's framework depends on two mechanisms for learning: first, through repeated play, actors (firms) discover that other actors can be regarded as trustworthy; and second, when they defect, a system of graduated sanctioning reminds them sternly that defection is costly. It is clear that those firms in the sample which have been convinced to risk an investment in training have not learned 'to trust' one another, as witnessed by the comments quoted earlier on the importance of confidentiality at the technical center. Moreover, as representatives of the center verify, there is no sanctioning mechanism they have been able to establish to stop poaching, which still sometimes occurs. Thus, whereas Ostrom's model would predict likely failure for the attempt to establish high-level in-firm training in the Arve, in fact it is one of the few successes of the French training reforms.

The Arve Valley is unusual in France, in that it is primarily composed of SMEs, a category of firms that has until recently been the object of either scorn or neglect from French industrial policymakers (Levy 1999, Parker 1999). Perhaps all that is really required to achieve cooperation is to have a group of densely packed small companies in related sectors in a circumscribed geographical area, with cooperation being just one of the many externalities that such 'industrial districts' can create for themselves (Pyke and Sengenberger 1992, Benko and Lipietz 1992). If that is right, then one would reasonably expect to observe success in the Vimeu, an employment zone comprising companies from several different supplier industries in Picardy, which is examined below.

The Vimeu

Roughly equidistant from Paris, London, and Brussels, the Vimeu has the second-largest concentration of firms in the French bar-turning industry (behind the Valley of the Arve) and an extremely high concentration of metal-working SMEs (Lefebvre 1992). As in the Arve, the metal-working firms in the Vimeu have a local association which in the 1980s faced an acute shortage of skilled workers. The director of the local association speaks of competition between companies from the two regions, who recognize similar qualities in each other. If the cooperative outcome observed in the Arve is idiosyncratic, the Vimeu is the one of the few regions in France likely to be able to reproduce most of those idiosyncrasies. Moreover, the comparison of the two districts takes two employment zones cut from almost exactly the same cloth of social capital, as measured by number of secondary associations per capita (INSEE 1998), so social capital theorists like Putnam (1993)

would predict an equally low propensity to cooperate in the two districts.

As was true in the valley of the Arve, the employers' association acknowledged as the prerequisite of a successful skills offensive an investment in a locally based technical center that could combine technology transfer with a strong training capacity. In 1998, at about the time of the expansion of the technical center in the Arve, the association in the Vimeu successfully lobbied local and regional governmental agencies to share the costs of a 12 million franc investment in a new technical center with dedicated training personnel and equipment (Cuminal 1998, Fornalick 1992). Rather than exclusively prioritizing use of the qualification contracts, the center pursued a strategy of skill upgrading through both apprenticeship and qualification contracts. Bar-turners in the Vimeu were eligible to use the qualification contracts developed by the sectoral association in the Arve, and the local association developed two further qualification contracts in 1992, which were designed with particular reference to the product markets of bar-turners in the Vimeu. The association in the Vimeu thus used the same material ingredients employed with such success in the Arve to convince firms to invest in youth training contracts: a training center funded at roughly equivalent levels, new qualification contracts, and an explicit recognition by the association that there could be 'no firm without skilled labor, [and] no skilled labor without solid professional and general education' (Cuminal 1998).

And yet, the firms in the Vimeu have not achieved the same success in achieving cooperation as have the firms in the valley of the Arve. From the author's sample of seven companies in the area, only one was investing in training at the levels associated with successful transition to a high-skill equilibrium: these firms maintained a far lower proportion of trainees to workforce and retained a lower proportion of those trained than those companies located in the Arve valley. One firm manager interviewed said that the training center created for the skills initiative was unable to use most of its capacity due to a lack of firms willing to train in the area; as of 1998, the director of the center said it trained only about fifteen young people per year in the bar-turning certifications (Cuminal 1998).

Why have the firms in the Vimeu not been able to engineer a successful transition to high-skill cooperative training? In contradistinction to the association in the Arve valley, the local association and its technical center took no measures to identify 'waverers and encourage them to begin training for the first time. Indeed, the manager of one firm in the sample said his most recent trainee had been hired with explicit awareness of both the trainee and the technical center that the work

was temporary and would not result in a work contract, which subverts the whole point of the youth training contracts (which are intended to be a bridge from education to work). This abuse was far from unique among firms in France, but the acknowledgement by a representative of the technical center of the temporary nature of this firm's contract runs directly against the retention strategy pursued by the technical center in the Arve. Those companies seeking to use the contracts for cheap, temporary labor, are very unlikely to be on the cusp of cooperation (the 'waverers'). They are most likely to be the firms who will train only when subsidies make it remunerative for them to do so.

This indiscriminate approach of trying to attract any possible trainees – which is lucrative for a training center, though not necessarily best for attracting the most committed firms – led to dissatisfaction with the technical center from the one firm in the Vimeu sample that was training and retaining young people at the levels indicative of high net training investments. 'The training at the [technical center] is not optimal: it does not have the resources, the young people they recruit are not good ones, and perhaps the [other] firms are not ready to invest enough money to move forward [with the training initiative].' Because the association had not devised a mechanism to target waverers, many of the firms training through the technical center were clearly not convinced of the value of cooperative training – and recall that most of the firms in the sample from the Vimeu would have reduced their training if it were not subsidized. Thus, one of the conduits for revising expectations that was observed in the Arve – contact with other firm managers who are themselves almost convinced of the benefits of training, even as one gains one's own experience with its potential benefits – was inoperative in the Vimeu.

Alternative Explanations

The results of the French training reforms in the Arve demonstrate that it is possible to create cooperation even in a political economy not noted for its cooperative proclivities (Levy 1999). They show equally, *pace* Putnam (1993) and Fukuyama (1995), that a low stock of social capital does not condemn a region to fail in constructing new projects premised on decentralized cooperation. Does the comparison with the Vimeu, though, demonstrate equally clearly that the difference between success and failure in cooperation lies in whether or not learning, of the type described in the second section, takes place? Low enforcement costs and high trust, the conditions predicted by Elinor Ostrom to facilitate successful change, do not differentiate the valley of the Arve from the Vimeu; in the Arve, cooperation has emerged

unsupported by the institutional rules, trust, and sanctioning capacity that support the successes observed in the common pool resource dilemmas she has studied. Instead, the key difference is the way the association was able to mobilize individual firms by using government subsidies to underwrite an apprenticeship in cooperation. The learning that occurred through this ‘apprenticeship’ did not fundamentally transform the interests of companies, nor did it make them inherently more trusting, but it did allow them to estimate more accurately the expected value of an investment in high-level training.

Are there other, unobserved sources of variation that could account for the difference in outcomes between the two employment zones? One can easily dismiss any argument that the amount of subsidy money available to firms is the real cause of the divergent outcomes. The associations had access to the same firm subsidies for taking on young trainees – exactly the same amounts per firm, since these were national subsidies. Both associations joined public authorities to invest serious money in their refurbished training and technology transfer centers; although the overall investments in the Arve were slightly larger (FFr 13 million vs. FFr 12 million), the investment *per worker employed* in the respective areas was actually substantially larger in the Vimeu than in the Arve. No, the association in the Vimeu certainly spent sufficient money to have succeeded, but its strategy of mobilizing firms indiscriminately undermined its objective to convince firms to begin investing seriously in training for the first time.

What about the sectoral specificity of the bar-turning industry? Both samples include firms from the bar-turning industry, and these districts contain the two highest concentrations of bar-turning companies in France, so the controls are the best that can be hoped for in a natural experiment. Nevertheless, the fact that the association in the Arve was able to concentrate on a geographically delimited and sectorally uniform population of firms might have made its task significantly easier than that of the association in the Vimeu, which served both bar-turning and other mechanical firms. There is certainly nothing inherent about the bar-turning industry that makes it much more likely than other mechanical industries to require skilled labor; indeed, a shortage of skilled labor was a common lament across the metal-working sectors surveyed by the author in France. Moreover, it appears that the sectoral uniformity of the Arve actually *exacerbated* the problem of building trust, because firms were so competitive with one another. Yet the association in the Arve probably did benefit from a compensating virtue which eased its organizational task: the homogeneity of its membership probably eased the task of mobilizing waverers, by virtue of the similarity of their production needs. However, the association still had to target

the needs of waverers and mobilize them in such a way that they could learn about the benefits of cooperation. Had it pursued the same indiscriminate strategy of mobilization pursued in the Vimeu, it would very likely have failed, because that strategy would not have given waverers the opportunity to learn about the benefits of training from each other. That is a counterfactual speculation, but joined with the empirical observation that an inter-sectoral association in the eastern German state of Saxony has been able to mobilize its members to learn about the values of cooperation through participation in training alliances (Culpepper forthcoming), it would seem that sectoral uniformity is neither a necessary nor a sufficient condition for successful transition to cooperation, whereas actor learning most definitely is a necessary condition for such success.

III Conclusion

If the theory of learning elucidated here is correct, then what are its policy-relevant consequences for states trying to get cooperation started among economic actors with distrustful past histories and presently potentially conflicting interests? As a corrective to theories that emphasize the largely self-reinforcing nature of social life – Putnam's (1993) study of Italian regional government and Finegold and Soskice's (1988) comparison of the British and the German political economies come to mind – this research gives some cause for optimism. Low-skill equilibria and southern Italian vicious circles are not immutable, even in a relatively short span of time; local pockets of cooperation *can* be created. This evidence shows equally compellingly that the solution proposed by Elinor Ostrom – that of constructing graduated sanctioning mechanisms to punish potential defectors – is not a necessary condition for the successful emergence of cooperation. This finding is an important cause of optimism for reforming states; but the evidence also demonstrates that the potential role of states in aiding the creation of cooperation seems rather limited. In the cases studied here, employers' associations were the central actors in using information about their members to target training subsidies on the firms most likely to be convinced, over time, of the long-term merits of investing in the development of a skilled labor force through youth training contracts.

The French government, long enamoured of an industrial policy tied to large national champions, seems to have rediscovered the idea of the industrial district based around networks of interdependent SMEs as a source of positive externalities for economic growth (Parker 1999). The regional development agency, the DATAR, launched a program in early 1999 to encourage the development of such networks by making

available public subsidies to 60 districts in France; both the Vimeu and the Arve were included prominently in this project (Moreau 1999). This article should serve as a cautionary tale for the DATAR initiative, which is rather unspecific about how the subsidy money is to be spent. On the one hand, the provision of seed money for associations to use in conjunction with private information about likely cooperators seems like a positive recognition of the limits of the state in trying to stimulate cooperation among private actors. Yet a well-functioning employers' association with the capacities of information-circulation and deliberation is a necessary condition for success in trying to establish inter-firm cooperative networks, and this standard is not one usually achieved by existing French employers' organizations (Bunel 1995). And even when they do exist, the case of vocational training reform strongly suggests that associations must use their private information to target and mobilize waverers for subsidy money in order to establish new patterns of cooperation against a backdrop of past distrust between companies.

From the broader perspective of the French state, it would probably be wise not to grow too attached to the industrial districts model as a new means through which the state can helpfully intervene in economic development. Much of French industry, and most French employers' associations, are dominated by larger firms; in these cases, there are additional power struggles that divide supplier SMEs and larger firms, and they further complicate the analysis of the emergence of cooperation (Hancké forthcoming). In eastern Germany, large firms convinced of the merits of transferring the western German 'high-wage, high-skill equilibrium' to the new states of the east have been of decisive importance in anchoring cooperative alliances among smaller firms (Culpepper 1999). In France, if large companies could be persuaded by their associations to play an active role in helping to foment cooperation, they could considerably ease the task of the associations. Few large French firms are currently willing to play that role in the area of vocational training, and the prospects for successful training reform without their assistance are slim. The state might be able to facilitate the birth of such alliances in cooperation with the associations (which have the best information about firm practices), by designing seed money for the development of cooperative clusters based around 'model large firms' that appear likely to be able to provide certain positive externalities in areas like training or technology transfer. The information asymmetries between the state and the private associations certainly leave open the possibility of abuse by the associations, which are adept at capturing rents from the French state's propensity to intervene in the economy. But without combining subsidy money

with the insights available only through private information, many of the supply-side reforms currently pushed by the French government are likely to fail.

The findings in this article have important implications for other states that attempt to create cooperation through supply-side reforms. Parker (1999) has shown that states across Europe are today encouraging the development of a thriving sector of SMEs, without necessarily targeting that policy towards those firms which create the positive externalities that states most want to encourage. The message of this article reinforces that general point, but underlines that the information resources of state are often not capable of allowing policy to be targeted to achieve the ends desired by policymakers. This message is one that will be particularly unwelcome to governments like France, Italy, and the UK, where employers' associations generally lack the coordinating capacity necessary to gather detailed private information about the preferences of firms. Whereas neo-liberal initiatives based on deregulating the economy do not make high informational demands on government, those initiatives that require private actors to cooperate with one another will generally fail unless governments are able to work together with private associations to target aid at the most likely cooperators. When governments look to pursue a nebulous 'Third Way' in economic policymaking, many of their initiatives will in fact require them to secure this sort of decentralized cooperation among private actors. Both in liberal market economies like the UK, as well as in state-capitalist economies like France, states will need to encourage the development of alternative informational conduits to the private economy. The problem for policymakers in such countries is that, in order for such institutions to be trusted by the actors of the private economy, they cannot be seen to be built by or subservient to the state. As with independent central banks, these institutions can only fulfill their mission when they are seen by companies to be beyond the influence of state policy. While such fora for private sector interest intermediation will be difficult to build and out of the state's control, they are the only likely source of private information on which the state can rely to enable reforms based on decentralized cooperation to succeed.

NOTES

1. The French have long tried to force employers to participate in the training system through the use of 'pay-or-play' payroll levies for apprenticeship and further vocational training, without much success (Boyer 1995).
2. The investment is difficult to evaluate because neither the costs nor the benefits of apprenticeship training are clear. While the wages of trainees are easily measurable, neither their productivity, nor the time taken from other skilled workers' productivity in training them, nor the

- savings in hiring practices made by using apprenticeship to screen potential employers, is easily susceptible to estimation (Wagner 1999).
3. The employment zone is a sub-national jurisdiction defined by the French statistical office on the basis of a coherent local labor market (INSEE 1998). The information was collected in 1996 through in-firm interviews with personnel and general managers based on a semi-structured questionnaire. The total sample included 29 companies from the metal-working industry in five employment zones: the valley of the Arve, the Vimeu, Lyon, Strasbourg, and Amiens.
 4. See Culpepper (1999) for a more extensive discussion of the criteria used to classify firm training behavior.
 5. For a comprehensive assessment of the functions and dysfunctions of the new institutions of French vocational training at the regional level, see the evaluative volumes published in 1996 and 1999 by the Coordination Committee for Regional Training Programs, an independent agency attached directly to the French Prime Minister's office.
 6. Note that firms in the Arve still have to invest in training costs. According to the director of the technical center of the bar-turning industry, they receive 40,000 francs in subsidies, and they have to pay 80,000 francs for the cost of training a single young person in a qualification contract. The subsidies thus halve the cost of the initial training investment.

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PEPPER D. CULPEPPER

John F. Kennedy School of Government

Harvard University

79 John F. Kennedy Street

Cambridge, MA 02138

USA

e-mail: pepper_culpepper@harvard.edu

