



Physician dual practice

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Abstract

Physicians employed in government clinics and hospitals also frequently have private practices. The economic theory of such dual practice is relatively limited and recent. We provide a summary and comparison of five models of dual practice, including one we have developed based on total compensation theory and contracting limitations. We also discuss whether theoretical predictions are consistent with empirical evidence from developed and developing countries. We argue that the social trade-off between the benefits and costs of dual practice hinge on the quality of a country's contracting institutions. The conclusion outlines a proposed research agenda for better understanding this widespread phenomenon in the health sector and in other segments of society.

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1. Introduction

In both developing and high-income countries, physicians employed in government clinics and hospitals also frequently have private practices. Such dual practice is common in the UK and many other European countries [1,2]. In low- and middle-income countries as disparate as India, Egypt, and Vietnam, the prevalence of dual job holding for physicians is quite high [3].

For example, according to the 1993 Indonesian Family Life Survey, 80% of public sector physicians reported having a private practice [4].

Multiple job holding is at odds with basic labor supply theories that predict individuals would prefer to work more hours at their highest paying job rather than holding multiple jobs [5]. It is also contrary to theories of incentive design that predict that employers will want to constrain employee temptation to divert time and attention from hard-to-monitor tasks ([6]; as Holmstrom [7] notes, “it is standard praxis that ordinary employees cannot work for two firms at the same time” [p. 94]). The prevalence of dual practice thus presents a puzzle. It suggests that both physicians and governments acknowledge complementarities between jobs,

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and that there might be some advantages to allowing dual practice.

Understanding trade-offs regarding dual practice can also be constructive for analyzing under-the-table, “gratuity” or “informal” payments to public sector providers, which are widespread in transitional economies such as in eastern Europe as well as in many developing countries [8–11]. When the physician’s “private practice” consists of using public facilities to treat private-pay patients, dual practice is synonymous with under-the-table payments.¹

Indeed, dual practice is not confined to physicians. As Biglaiser and Ma [12] point out, the theory can also help to understand “public law enforcement officers working for private security firms or consumers; public school teachers offering private tutoring services or working for private test preparation firms . . . ; academics in public (and private) universities consulting for private firms (and the government)” (p. 1).

In this paper, we provide a summary and comparison of five models of dual practice, including one we have developed based on total compensation theory and contracting limitations. We also discuss whether theoretical predictions are consistent with empirical evidence from developed and developing countries. We argue that the social trade-off between the benefits and costs of dual practice hinge on the quality of a country’s contracting institutions. The conclusion outlines a proposed research agenda for better understanding this widespread phenomenon.

2. Models of physician dual practice

The theoretical literature on dual practice is relatively limited and recent. Table 1 summarizes the primary features of five models developed within the past 6 years.

Each study sets out to answer a slightly different research question. For example, Rickman and McGuire [1] ask how public hospitals (and their physicians) should be reimbursed, when physicians provide both publicly- and privately-funded services to the same patients (one natural interpretation of the payment for

private service is as a gratuity or under-the-table payment, although this is not an interpretation that the authors mention). By contrast, Biglaiser and Ma [12] model the social welfare implications of dual practice, when publicly-employed physicians either treat a patient in the public sector or refer the patient to their private practices. Gonzalez [2] similarly analyzes whether dual practice should be allowed, and if so, whether private practice income should be limited. Her focus, however, is on the incentive for public sector physicians to enhance their reputations by avoiding under-treatment in the public sector. Barros and Olivella [14], like Rickman and McGuire [1], focus on analysis of behavior assuming physicians have dual practices, but their focus is on cream skimming patients from the public sector waiting list.

The papers differ along several other dimensions as well, such as types of physicians and their objectives, regulator objectives and constraints, whether information is asymmetric between patients, physicians, and/or regulators, and whether quality (or treatment intensity) is verifiable (see Table 1). Accordingly, to some extent these theoretical contributions may be viewed as complements rather than substitutes: they model different aspects of the phenomenon.

Unsurprisingly, positive predictions and normative evaluations differ. For example, Biglaiser and Ma [12] find that limiting private practice revenues (through price ceilings) can improve social welfare and public service quality by mitigating the adverse behavioral reactions of public physicians (i.e., the “temptation” of private profits).² By contrast, Gonzalez [2] finds that limiting private practice revenues might damage public service quality, since her model assumes that the “temptation” of private profits enhances public service quality (e.g., physician effort in diagnosis): physicians who build a good reputation earn higher private profits.

¹ Also see Banerjee [13] for a more general theory of government officials’ behavioral responses, red tape, and misgovernance.

² In this sense the “dedicated doctors” in the Biglaiser and Ma [12] model resemble the entrepreneurs with profit-deviating preferences in Lakdawalla and Philipson [15]: choice of regulatory framework (single- or dual-practice for Biglaiser and Ma, nonprofit or for profit ownership for Lakdawalla and Philipson) depends on the opportunity cost. More “dedicated doctors” will choose to moonlight when private practice profits are high; more entrepreneurs will choose for profit over nonprofit status when profits are high. In both cases, the choice of contract/practice is endogenous; individuals differ in ability to benefit from different regulatory structures and there is no one-to-one correspondence between objectives and chosen form.

Table 1
Models of physician dual practice (DP)

	Rickman and McGuire [1]	Bir and Eggleston [4]	Biglaiser and Ma [12]	Gonzalez [2]	Barros and Olivella [14]
Main research question(s)	When DP exists, how should public hospitals (and their physicians) be reimbursed? Focus on whether public and private services are complements or substitutes, when both are supplied simultaneously to the same patient(s)	What are the costs and benefits of allowing dual practice?	What are the social welfare implications of allowing DP (moonlighting)? Examine equilibria in a basic static model and under several extensions (dynamic setting; asymmetric information; regulated private sector)	When should health authorities (regulators) allow DP? If allowed, should private income be limited? Focuses on public sector MD enhancing reputation by avoiding under-treatment in the public sector. Static double-moral-hazard framework	When DP exists, will MDs cream skim the mildest cases from the public sector waiting list? Focus on positive model of MD and patient decisions about public or private treatment, given a public sector rationing policy
Types of MDs and their objectives	A single type of MD chooses quantity of public and private services to maximize utility from public hospital net revenue, private practice net revenue, and patient net benefits from treatment	MDs may differ in ability/quality (in model of MD sorting between sectors); seek to maximize utility from income, leisure, and disutility from inducing demand (self-referral not in patient's best interest)	"Dedicated doctors" provide good quality in public service despite lack of incentives; may also reject DP opportunities. "Moonlighters" maximize own utility; provide minimum quality in public sector	A single type of MD, private income depends on reputation (prestige). MD provides public patients with diagnosis and treatment; curing patient in one period improves reputation	A single type of MD, very general utility function (assumes only that if willing to treat a patient in private practice, also willing to treat all patients with lower severity)
Policymaker/regulator objectives and constraints	Maximizes patient benefits from treatment (both public and private) less treatment costs, by choosing to pay public hospitals with cost reimbursement, prospective payment, or with some supply -side cost sharing	Minimizes expected social costs (MD salaries + cost of adverse behavioral responses) of government delivery, by choosing permissiveness of dual practice	Maximizes consumer welfare + MD utility, with an efficiency cost of public funds, by choosing (a) whether or not to allow DP; (b) a price ceiling for private practice	Minimizes expected social costs (treatment costs + MD payment + patient disutility from delay or over-treatment), by choosing (a) whether or not to allow DP, and (b) whether or not to limit private earnings of public physicians	Not relevant: public sector rationing policy (i.e., how severe a patient's condition must be to be put on public sector waiting list) is exogenous
Patients all first attend public sector?	Yes (public sector defined as public funding or first-dollar insurance)	Not necessarily (DP MDs may compete with non-DP MDs)	Yes	Yes	Focus on patients put on public sector waiting list; some may pay for private treatment instead
MDs can refer patients to private practice?	Yes (in sense that MD chooses quantity of public and private services to offer to a given patient)	Yes (and may induce demand)	Yes	No (but public sector treatment decision affects private sector income, through reputation)	Yes (in sense that offer private treatment to some waiting for public treatment)

Table 1 (Continued)

	Rickman and McGuire [1]	Bir and Eggleston [4]	Biglaiser and Ma [12]	Gonzalez [2]	Barros and Olivella [14]
Is quality (or treatment intensity) verifiable?	Yes	No	No, in public sector; Yes, in private sector	Both cases considered	Quality is not a choice variable (focus is on which patients offered private treatment)
Is information asymmetric?	No	No	Not in the basic model, but considered in extensions	Yes (both cases considered; focus on case when regulator cannot observe MD diagnosis effort nor treatment strategy)	No
Can allowing DP improve social welfare?	Yes (although not main focus of model)	Yes, sometimes	Yes, always	Yes, sometimes (e.g., if regulator cannot offer an incentive contract instead)	Not modeled (positive model of MD and patient choices only)
Effect(s) on public service quality of allowing DP	DP may increase or decrease public service quality depending on (a) whether public and private services are complements or substitutes, and (b) how the public hospital is reimbursed	DP may increase or decrease public service quality depending on (a) whether the “benefit” of DP income attracts higher skill MDs, and (b) other social costs of DP, e.g., public sector shirking and pilfered supplies	In basic model, depends on balance of cost saving and patient moral hazard effects. With MD behavioral reactions, some “dedicated” doctors may reduce quality; DP doctors may also reduce quality even more than when DP not allowed	May increase quality because diagnoses more accurate (to improve reputation); may reduce quality because induces over-treatment (because only short, intensive treatment enhances reputation)	Not modeled
When does allowing DP improve public service quality?	Private supply (i) restrains over-treatment (under cost reimbursement) if private quantity substitutes for public quantity, and (ii) induces less public sector stinting (under prospective payment) if private quantity complements public quantity	When the “benefit” of private practice income attracts higher skill MDs than would otherwise accept public employment, and this plus any reputation-building effects offset shirking	When cost of public funds is high (patients opting for private treatment save public funds, which can be used for higher public quality). With MD behavioral reactions, when private sector is regulated (price ceiling or other limit on profitability)	When the regulator wishes to induce the appropriate -treatment strategy (i.e., does not just want to minimize treatment costs), and the social cost of inaccurate diagnosis is high. Limiting private sector income may decrease accuracy of diagnoses	Not modeled

Notes: DP, dual practice (i.e., physicians employed by the public sector may also have a private practice); MD, medical doctor (physician).

Interestingly, some consistent results emerge from these diverse conceptualizations: (1) *allowing dual practice may improve social welfare*; and (2) *allowing dual practice may improve the quality of public services, under specific circumstances*. These theoretical predictions stand at odds with much of the policy discussion, which tends to assume that allowing public sector physicians to earn private revenue will harm the quality of services provided in the public sector, although it may benefit private sector patients and physicians.

Why might allowing dual practice improve public service quality? In Rickman and McGuire [1], private supply (i) restrains over-treatment (under cost reimbursement) if private quantity substitutes for public quantity, and (ii) induces less public sector stinting (under prospective payment) if private quantity complements public quantity. In a very different modeling framework, Biglaiser and Ma [12] also find a broad set of circumstances in which dual practice might not only improve overall social welfare but also benefit public sector patients through enhanced quality. In their model, when the cost of public funds is high, patients opting for private treatment save public funds, which can be used for higher public quality. Moreover, if public physicians shirk or skimp when allowed to earn private practice revenue, the regulator can minimize these adverse behavioral reactions by imposing a price ceiling on the private sector or otherwise limiting private profits.

Gonzalez [2] also finds that allowing dual practice may improve quality for public patients. In her model the mechanism is improved physician effort (e.g., to obtain accurate diagnoses) because better public sector quality earns the physician a better reputation and therefore more private practice revenue in the future.

Bir and Eggleston [4] emphasize a related but distinct mechanism based on physician self-selection into public employment. Shirking or skimping could be offset by the higher activity rates and/or better process quality of care available from the physicians that practice in the government sector (for any given salary level) when they have legal recourse to supplementing income from private practice. If limiting dual practice reduces the attractiveness of public service disproportionately for higher skilled physicians, then the impact of dual practice on public service quality—whether measured by physician skill, service responsiveness,

process quality, or patient outcomes—is ambiguous. To the extent that physicians divert attention and effort to their private practices more than they use public provision to build reputation, patients in public clinics and hospitals may face longer waiting times and lower quality of care along many if not all those various dimensions of quality (as noted below). But this effect could be offset by the higher average quality of physicians that practice in the government sector when they can earn additional income from private practice. The net impact of allowing dual practice on public sector quality of care remains an empirical question.

The theoretical prediction that quality in the public sector may not be damaged by dual practice, particularly through the mechanism of physician sorting, receives some empirical support from UK experience. Bloor et al. [28] analyze the variation in activity rates of consultant surgeons in the English National Health Service (NHS) for five surgical specialities in 1998/1999 and 1999/2000. They find that surgeons who chose the contract with larger freedom for dual practice—the ‘maximum part-time’ contract—have higher NHS activity rates than those with a full-time contract. As the authors point out, the evidence does not support the perception that ‘full-timers’ embody greater commitment and contribution to public sector provision (the NHS). Rewards and bonuses for physicians “should be based on their activity in the NHS, carefully measured and monitored, not on their private sector income” (p. 83). Their conclusion also points to the importance of being able to monitor behavior. The model we sketch in the next section emphasizes how government ability to monitor and contract determines whether the advantages of allowing dual practice outweigh the disadvantages.

3. Understanding dual practice: a total compensation and contracting approach

Consider a country that seeks to guarantee its citizens universal access to basic health care. Without government financing, some high-income consumers would buy services from available providers, but many lower income consumers might not. To achieve universal access, public intervention is needed for the latter group. Public financing targeted to the poor would be ideal. In practice, many countries adopt a system

of implicit coverage through delivery of care at government hospitals and clinics. Thus access to basic health care, particularly for the less well-off, depends upon government ability to attract and retain competent physicians in government-owned clinics and hospitals.

3.1. Advantages of dual practice

We argue that a useful way to understand government policies regarding dual practice and informal payments is to think of a government employer offering a total compensation package to physicians that includes both salary and the non-wage “benefit” of private practice revenue. Allowing dual practice may enable the government to recruit quality providers at a modest budgetary expense.³

Policies in several countries suggest that governments act as if they agree with this application of compensating differentials and total compensation theory (e.g., [16,17]) to dual practice. For example, in Spain, government-employed physicians receive a monthly bonus if they do not also practice privately [2]. As noted above, consultants in the UK can select a contract that allows significant private-practice revenue, and these physicians provide more public sector services than their counterparts who opt for a contract without much scope for dual practice (Bloor et al., 2004). Gruen et al. [18] argue that dual practice is viewed as legitimate in sub-Saharan Africa primarily to supplement extremely low official salaries, and that in Asia, “most governments have a permissive attitude to joint public/private practice, because they see it as a way to mobilize further resources and to retain qualified staff in the public health sector” (p. 268).

The oft-heard argument that allowing dual practice decreases the quality of public sector provision ignores the counterfactual of what physician sorting by skill level would take place in the absence of dual practice. Of course, dual practice can give doctors incentive to

reduce hours and divert attention and resources to their private practice. If these behaviors more than offset any increase in effort motivated by the desire to build a reputation, then the overall effect is to reduce public sector quality *compared to full attention by those same physicians to their public sector duties*. However, this is frequently not the correct counterfactual. Different physicians may choose public practice if dual practice were not allowed. Indeed, if the government of a lower income country cannot offer salaries high enough to attract competent physicians without dual practice perks, then patient access to basic care in the public sector depends on allowing dual practice, and may shape the evolution of public–private sector interaction for decades.

To make this argument more concrete, consider physicians who differ in their skill level. Higher skill levels are correlated with higher process quality of care, and weaker correlated with higher quality as measured by patient outcomes. When salaries cannot explicitly vary by skill level (because skill is non-contractible, even if partially observable), then satisfying the participation constraint of higher skill physicians requires either raising all salaries to high levels or offering a non-wage benefit that higher skill physicians differentially value, such as dual practice.

A physician’s expected benefits from dual practice are likely to be higher for those who are confident they can attract a lucrative private practice clientele. It is therefore natural to assume that the marginal benefit of private practice is increasing in skill. Then the marginal benefit to higher skill physicians of allowing dual practice is greater than that of lower skill physicians (physician reservation utility would presumably be increasing in skill level as well).

In such a model [4], perhaps ironically, *allowing private practice differentially attracts providers of greater skill who anticipate higher dual practice earnings*. This dual practice effect potentially offsets the otherwise prevalent skill-based sorting that leaves low-wage public sector facilities starved of human capital.

Some evidence supports the assumption that the value of being able to earn private practice income is higher for higher activity or higher skill physicians. For example, the aforementioned analysis of consultant activity in the UK lead Bloor et al. (2004) to argue that “reducing private-sector activity will not necessarily increase NHS activity and could prove a barrier

³ The latter concern may be central in lower-income countries. In Tajikistan, for example, official physician salaries in 1998 were only US\$ 2.80–3.50 per month, compared to the workforce average of US\$ 11 ([10]: p. 136). Even in more advanced transitional economies such as Hungary and Poland, physicians earned only 27–33% more than the average employee; by contrast, physicians in Germany and the United States earn >400% more than the average German or American employee ([9]: p. 167).

to increasing productivity in the NHS” (p. 83). This argument might hold with even greater force in lower income countries. Gruen et al. [18], in a survey of dual-practice physicians in Bangladesh, found that primary-care doctors were willing to give up private practice if paid higher salaries, but that doctors in secondary and tertiary care were far more reluctant to do so. Hicks and Adams [19] report that in Nepal, an initiative to promote teaching and research by paying physicians a “non-practicing allowance” seemed successful for basic sciences, but that “in clinical departments, many physicians resigned their teaching positions” (p. 10). Both examples are consistent with increasing benefits of private practice for higher skilled clinicians. Allowing dual practice then helps to retain skilled personnel.

As Biglaiser and Ma [12] and Gonzalez [2] argue, governments may find dual practice particularly attractive if they cannot offer explicit incentive-based contracts, as many private sector employers can.

To the extent that physicians attempt to build a good reputation that will enhance future private practice revenue, allowing dual practice also gives a kind of performance-based incentive for physicians to exert effort. As noted above, Gonzalez [2] develops an incentive model of dual practice focusing on this latter possibility. Public practice may also enable physicians to balance fluctuations in their income streams from private practice [20].

Moreover, since health services provided by government clinics and hospitals are typically available to all patients “free” or heavily subsidized, they are utilized even by those who would otherwise have purchased care from private providers. This “crowds out” private financing and creates a deadweight loss to society from additional tax distortions to finance the public facilities. Lowering the public sector’s market share reduces this inefficiency (Biglaiser and Ma [12] include this effect in their model).

In addition, if dual-practice providers differentially refer higher income consumers to private practice, as would be consistent with income maximization as well as with altruistic concern for patient welfare, public funding of government health facilities becomes more effectively targeted on poor consumers. Dual practice could therefore serve as an informal means test for efficient sorting of consumers between sectors, while simultaneously allowing physicians to supplement

income through price discrimination. Unfortunately, however, evidence from informal payments contradict the “Robin Hood” hypothesis and are not encouraging about physician altruistic concern for patient welfare. For example, Szendea and Culyer [11] find that people with lower income pay proportionally more for public health care through informal payments than wealthier patients do. If this holds generally, then expansion of the private sector will not help to target public funds on the poor, but it still might reduce the inefficiency from distortionary tax financing.

3.2. *Disadvantages of dual practice*

The listed potential benefits of dual practice do not come without costs, however. Dual practice providers may skimp on work hours in the public sector to spend time in private practice. Since monitoring of provider time and effort is costly, often only minimal presence in a public practice is required to access the non-pecuniary benefits of public employment (e.g., official salary and civil servant fringe benefits such as public housing). To the extent that this effect offsets any incentive to work harder to build a reputation (see ref. [2]), skimping may adversely affect access and quality of care for patients seeking treatment at government facilities. Biglaiser and Ma [12] model this effect by noting that when dual practice is allowed, some “dedicated” doctors may reduce the quality offered in their public practice; “moonlighting” doctors may also reduce quality even more than when dual practice is not allowed.

A physician with both public and private practices may use public resources to treat private patients, whether by lifting supplies (e.g., gauze, medications) or treating patients at the public facilities without paying any rent or charge for such use.⁴ Such “free riding” on public financing to generate personal profit clearly undermines the efficiency of public delivery. It also typically constitutes regressive income redistribution (from lower income patients and taxpayers to higher income physicians). Furthermore, such opportunities give dual practice physicians a cost advantage over physicians solely in private practice. Free riding on

⁴ For example, in Italy, “scandals are common, involving doctors who purchase equipment on the public budget but then use the equipment in their private practice” ([21]: p. 897).

public facilities can therefore constitute a break on the healthy development of private sector delivery systems such as those in many central and eastern European countries [9], and may contribute to higher overall healthcare costs.⁵

Furthermore, dual practice providers have incentives to induce demand for private practice services. The propensity of health care providers to over-refer to facilities in which they have a financial interest is widely recognized (e.g., by laws prohibiting physician ownership of pharmacies in the US). Such self-referral exemplifies the controversial phenomenon of physician-induced demand.⁶ Since consumers with low educational levels and in poor health may be especially vulnerable to such inducement, the perverse incentives of dual practice are a particular concern for policymakers aiming to protect vulnerable populations. Physician self-referral to private practice would only constitute “undue influence,” and hence induced demand, if the incremental quality of private services does not justify the usually higher patient price for care. Few studies of patient choice of provider have sufficient data on quality to test for this effect.

Dual-practice providers also have incentive to distort quality toward dimensions that are observable to profitable patients, while skimping on technical aspects of quality less monitorable by patients.⁷ Since single-practice private physicians also have this incentive, the extent to which dual practice affects such quality distortions is also in an interesting empirical question.

3.3. *The importance of contracting institutions*

The above analysis suggests a social trade-off between the benefits of dual practice (such as attracting high-productivity physicians to government service)

⁵ The argument is parallel to one made by critics of physician ownership of ancillary treatment facilities in the US: opportunities for self-referral may inhibit competition from facilities that do not benefit from such self-referral, and thus raise overall costs ([22]: p. 264).

⁶ “Adding up the evidence, on obstetricians doing more C-sections, surgeons doing more bypass operations, *physicians referring more frequently to their own labs*, and other studies, makes a convincing case that doctors can influence quantity and sometimes do so for their own purposes” ([23]: p. 517, italics added, referring to ref. [22]).

⁷ See Dranove and Satterthwaite [24,25].

against the costs of allowing not-so-productive physicians and the less scrupulous to take advantage of incomplete contracting and monitoring abilities. The terms of this trade-off depend on the quality of contracting institutions.

Better ability to monitor and contract can minimize shirking on public practice duties, appropriating supplies and using public equipment without paying rent. Transparent contractual relationships between public and private practices, such as rental of facilities and subcontracting for specific services, can offset many of the costs associated with allowing the same physicians to practice in both.

Another government policy that requires credible contracting institutions is enforcement of restrictions on private practice earnings. In France, public physicians’ income from treating private patients cannot exceed 30% of the physicians’ total income, and in the UK full-time NHS consultants’ revenue from private practice is not to exceed 10% of their NHS salary [1]. As Biglaiser and Ma [12] note, such restrictions on private sector profitability have the potential to raise social welfare. According to the Bir and Eggleston [4] argument, attracting physicians into public practice presumably then requires offering public sector salaries (and other benefits) sufficient to compensate for the more limited opportunities for private practice revenue. In either case, the limits on dual practice only affect behavior if physicians anticipate that the contractual terms will be enforced.

For low-income countries, the ability to contract and monitor public service quality is often quite limited. This institutional constraint would seem to tip the scales against allowing dual practice. Yet the advantages of dual practice may also be high in developing countries, for several reasons. Competing development priorities may severely limit government ability to match private sector salaries. Disallowing dual practice may then come at a high cost, since the government sector may lose “higher activity” and potentially higher quality physicians to the private sector; because policies tend to become rigid as interest groups develop around these institutions, this public–private split may continue as the country develops.

Several policy studies have noted the strong positive correlation between low public sector salaries and private income-generating activities, especially in low-income countries. For example, a WHO summary of

ten country case studies⁸ found “a tendency for professionals in the public sector to spend most of their time and energy in private practice, or to charge informal fees, where salary levels are low or pay is delayed” ([19]: p. 9). The first incentives listed for recruiting public sector physicians, after paying competitive salaries, are “allowing after-hours private practice in public institutions” (which was considered successful in Bahrain) and “tolerating informal payments” [19]. In fact, some policies explicitly trade off allowance of private practice with cash payments. Examples include paying doctors a “non-practicing allowance” to encourage teaching and research in lieu of private practice [19], or offering higher cash wages to physicians in rural areas explicitly to offset more limited rural opportunities for private practice revenue.

Higher income countries may have a greater ability to provide benefits to public servants that compete with the private sector (although even in established market economies government employees are frequently less well paid than their private sector counterparts, at least partly in exchange for better job security and benefits). However, where higher income countries clearly differ from developing countries is in their substantially greater abilities to contract and monitor, reducing the disadvantages associated with allowing dual practice. Higher income countries also have institutional capacity to implement relatively well-targeted (means-tested) direct transfers to the poor, and insurance programs or other purchaser–provider splits that largely remove the need to assure access through public sector physicians. Nevertheless, even in high-income countries, public providers remain the core of the safety net.⁹ In addition, the monitoring and enforcement of contracts can entail considerable administrative expense.

Thus, it is theoretically ambiguous whether dual practice is more or less attractive in countries at different levels of economic development. History and institutional evolution may lead to different outcomes.

This theoretical result is consistent with empirical reality: in some higher income countries (e.g., Canada, US) dual practice is rare, while in others (e.g., UK, Germany) it is common.

We can relate these results directly to recent developments in contracting theory. For example, Acemoglu et al. [27] analyze the relationship between contractual incompleteness (a measure of the quality of contracting institutions) and the division of labor. One of their main results is that “greater contracting incompleteness reduces worker investments, and via this channel, limits the profitability and the equilibrium extent of the division of labor” (p. 2). Allowing dual practice is similar to a division of labor; its benefits depend on the quality of contracting institutions.

4. Conclusion

The theoretical models of dual public and private employment developed to date help to throw light on the advantages and disadvantages of this widespread arrangement in the health sector and in other segments of society. We have argued that dual practice offers many potential benefits, and that the quality of a country’s contracting institutions will dictate to what extent these benefits are offset by costs from shirking, pilfering, and other opportunistic behaviors.

Several important questions remain unanswered. Unfortunately no studies so far have convincingly quantified social costs of dual practice, such as the extent to which doctors divert public sector resources to their private practices. It is also unclear what the administrative and social costs would be of enforcing a ban on dual practice, and how this differs across institutional contexts.

Policymakers would benefit from better documentation of the prevalence of dual practice and its evolution in countries over time. Other areas of priority include probing the structural, process and outcome quality of physicians who do and do not choose dual practice; examining the administrative costs of monitoring physician activities across disparate settings; and analyzing plausibly exogenous changes in incentives to disentangle the selection of contract from the causal effect of payment incentives for specific contract forms.

Empirical studies should probe carefully behind the oft-heard argument that allowing dual practice

⁸ The 10 countries were Bahrain, Bangladesh, Côte d’Ivoire, Estonia, Ghana, Islamic Republic of Iran, Kyrgyzstan, Mongolia, Nepal, and New Zealand.

⁹ In the US, for example, Zuckerman et al. [26] report that of the 107 hospitals nationwide with the highest market share of uncompensated care and highest burden (measured as percentage of expenses that are uncompensated), 69.2% were public and none was for profit.

decreases the quality of public sector provision. For example, public patients may benefit when competent physicians, attracted partly by the freedom to engage in dual practice, remain in the public sector. In fact, all theories to date suggest that the impact of dual practice on public service quality is ambiguous.

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