COMMENT

A Free Market in Kidneys Would Be Efficient and Equitable

A Case of Too Much Romance

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With regard to the recent *Independent Review* article by William Barnett II, Michael Saliba, and Deborah Walker, "A Free Market in Kidneys: Efficient and Equitable" (2001), one might complain that the title misleads the reader to expect that the authors will ground their case against the current, regulated market on a comparison with a completely unfettered market. Rather than doing so, however, they base much of their argument on the assumption that the government acts as a third-party payer-of-last-resort. A more helpful title might have been "An Efficiency and Equity Case for a Market and Public Intervention in Kidneys" or "A Mixed Case of Private and Public Provision for Kidney Transplants." My present criticism of the article, however, goes beyond a mere charge that the authors chose a misleading title. I show that their efficiency and equity case founders on an overly romantic view of the government: if feasibility is taken seriously and social optimality in public-sector provision is satisfied, then their strong conclusion—that "a free market . . . , in conjunction with third-party payers, would eliminate the . . . [inefficient

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and inequitable] effects of the current system. . . . [where t]he medical shortage . . . would be eliminated, and everyone who could benefit physically from a kidney transplant would receive one" (2001, 383)—in general no longer holds.[1]

To see what is at stake here, consider my figure 1, which is a variant of their figure 2.[2] Under the regulated outcome, the number of kidneys supplied equals the number donated voluntarily, Q_R. The "market"-clearing price occurs at P_4, the intersection of the regulated supply curve and the demand curve, which represents the government acting as a third-party payer-of-last-resort—that is, at the intersection of S_K^R and D_E. If kidneys can be bought and sold on a voluntary market, then the amount of kidneys coming onto the market will be responsive to price. The competitive equilibrium output is $Q_{C,}$ and the market-clearing price is P_1. As Barnett, Saliba, and Walker point out, not all the individuals who require a kidney will be able to acquire one on the competitive market. The medical shortage is represented by the number of kidneys that would be demanded at a zero price and by the number supplied under competition; that is, the medical shortage is $(Q_{MAX} - Q_C)$. Barnett, Saliba, and Walker acknowledge the potential inequity of the medical shortage evident at the market outcome, but they go on to argue that

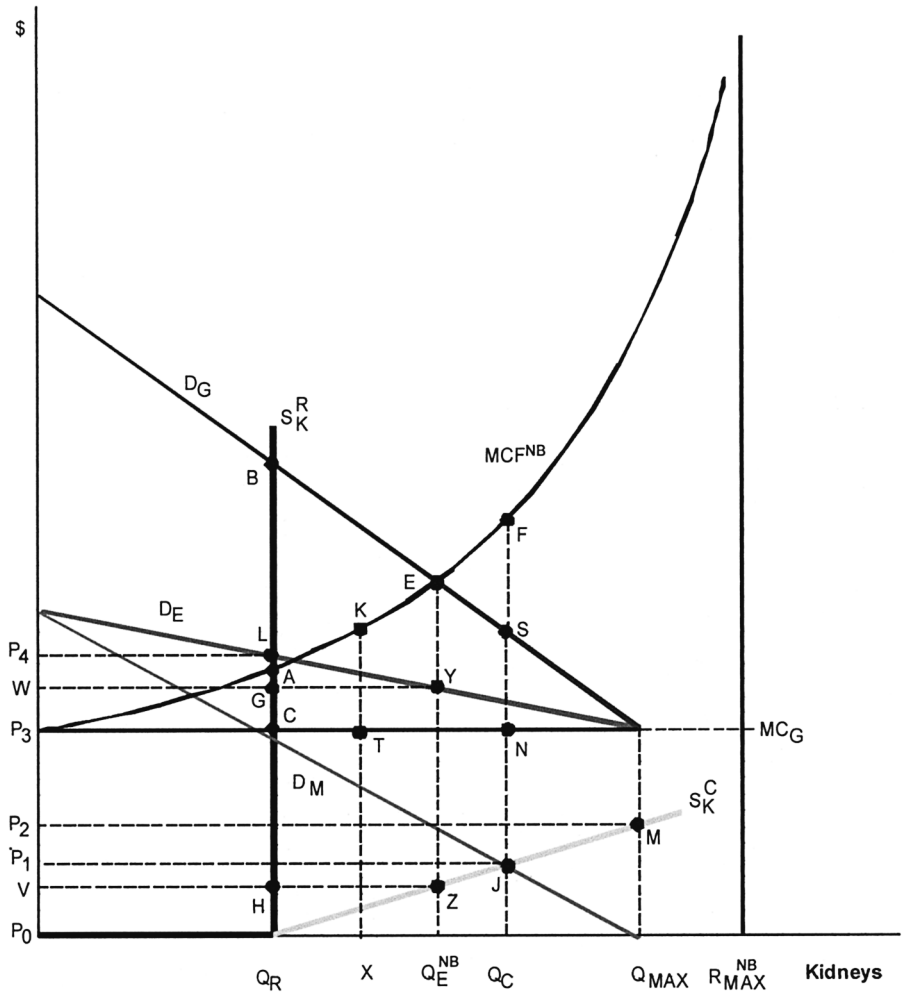
> *a free market in kidneys, in conjunction with the current system of financing transplants, would also eliminate the medical shortage*. . . . [T]he federal government is the de facto payer-of-last-resort for virtually all kidney transplants. . . . [T]he demand curve for transplants and hence for the requisite kidneys [is] truncated at a price greater than the opportunity cost of providing the marginal transplant and its requisite kidney. Consequently, the demand for transplants and hence for kidneys can be satiated. (2001, 375, emphasis in original)

In terms of my figure 1, the government's demand for kidneys is represented by the truncated demand curve D_E. The government acting as a third-party payer-of-last-resort is prepared to pay up to P_3 for the marginal kidney, and all individuals who

1. Barnett, Saliba, and Walker make a number of additional claims about the superiority of the mixed case. In particular, they suggest that in the mixed case "no longer would society's scarce resources be squandered in the political competition to gain control of artificially scarce kidneys and their attendant risk" (2001, 383). This claim represents something of a real puzzle. In their discussion in footnote 5, they recognize that any divergence between the demand and supply prices will invite rent seeking, but the model discussed in their figure 2, on which all of their conclusions rest, maintains a divergence between demand and supply price of kidneys. Why they think their mixed case of market and public provision avoids wasteful competition is therefore not clear.

2. Apart from amending the labeling of Barnett, Saliba, and Walker's figure 2, I also have added a number of curves. Despite these changes, their basic figure remains intact. Specifically, I have relabelled their D_1 and D_2 as D_M and D_E. I have added the marginal cost of public funds curve, MCF^{NB}, and the line representing the revenue maximum under the narrow-based tax, R_{MAX}^{NB}.

Figure 1
The Market for Kidneys



require a kidney receive one.[3] Barnett, Saliba, and Walker see no need to make any trade-off between efficiency and equity. The mixed case of public and private provision efficiently satisfies their notion of equity. It is not difficult to see, however, that their claim fails as a result of taking an overly romantic view of the forces behind government intervention and of the cost of public provision.

3. Although the government might provide a kidney to each individual who needs one at a budgetary cost represented by area $P_0P_2MQ_{MAX}$, Barnett, Saliba, and Walker assume that the government always pays a price equal to the height of the truncated demand curve. I retain this assumption throughout the analysis. Barnett, Saliba, and Walker evidently assume that the supply side of the market has the bargaining advantage in setting the price for kidneys.

Barnett, Saliba, and Walker's argument is highly problematic on at least two grounds. First, there is no reason why the amount the government is prepared to pay currently as a third-party payer-of-last-resort coincides with the amount the collectivity would be prepared to pay in some normative sense. Part of the difficulty in interpreting the authors' argument is that they do not provide any additional explanation of what the demand curve D_E entails. Barnett, Saliba, and Walker do not go much beyond the assertion that currently the government is prepared to act as the third-party payer-of-last-resort for virtually all transplanted kidneys and that this readiness is captured in the truncated demand curve. Although they are unclear about what the truncated demand curve represents, a moment's reflection reveals what the curve must reflect in order for their claims to be substantiated. As long as one adheres to the normal conventions in welfare economics and wants to support the claim that Q_{MAX} is the efficient level of provision, then the truncated demand curve D_E must represent the collectivity's marginal external benefit for transplant kidneys. In this event, the marginal social benefit, D_G, is the vertical sum of the external and private demand curves for kidneys. On the cost side, the amount paid for kidneys under a 100 percent subsidy involving a price of P_3 would have to represent the marginal cost of public provision, depicted as MC_G. Under this interpretation, the socially efficient level of kidney provision occurs at the "intersection" of the collective demand curve and the marginal cost curve. At the intersection of D_G and MC_G, the required quantity of kidneys is represented by Q_{MAX}, which is the total number of kidneys required to avoid any medical shortage. Any other construction surely would vitiate the authors' claim that the mixed case of provision is both efficient and equitable.

Reconstructing what the curves should signify, however, in no way substantiates their argument. Barnett, Saliba, and Walker offer no analysis to suggest why the government's *current* policy to fund virtually all transplants means that the curve D_E *actually* reflects the community's willingness to pay for the kidneys required for transplants. Put simply, the government's readiness to fund all kidney transplants does not mean that the amount of spending required to do so is the amount the government should be spending. Any one of a number of lines of research in public choice must cast serious doubt on the proposition that what actually is done and what normatively is required of government coincide. To assert otherwise is to adopt a romantic, dubious, and biased view of government. For example, under the demand-driven model of government, if there is a divergence between the fraction of the collective demand at the social optimum attributed to the median voter and the fraction of the marginal cost paid by the median voter, then the level to which the government acts as a third-party payer-of-last-resort will not reflect the level to which the collectivity is willing to pay.[4]

Moreover, modern developments regarding the logic of electoral preference raise serious doubts about whether voters at the ballot box will select the level

4. See Holcombe 1980 and Brooks 1996 for discussions of some of the conditions that must be satisfied if a public-sector equilibrium is to be socially optimal.

required by social efficiency, which conventionally is interpreted as the intersection of instrumental marginal social benefits and marginal cost. Expressively driven voters will vote instead for options that appeal to their whim, fancies, and ideologies rather than the outcomes based on the balancing of instrumental marginal benefits and marginal costs.[5]

Alternatively, if the government is modeled as pandering to special-interest groups, then the amount the government actually is prepared to pay will reflect a balance of the demands of competing interest groups rather the amount the entire collectivity will be willing to pay to subsidize the transplantation of kidneys.

In light of the various approaches, Barnett, Saliba, and Walker's implicit assumption that what the government currently is doing reflects what the collectivity would be prepared to pay for constitutes an overly romantic view of government. There is no reason for them to maintain that the government's current willingness to pay for virtually all transplanted kidneys means that the marginal social external benefit curve must coincide with the curve D_E represented in their figure 2. If the marginal external benefit curve cuts the horizontal axis to the left of Q_{MAX}, then the social optimum will occur also to the left of Q_{MAX}.[6] In these circumstances, what the government is doing and what it should be doing do not coincide. If the government complies with the efficiency strictures of conventional welfare economics, then it will not be the case that all individuals who require a kidney *should* receive one.[7] If social efficiency is satisfied here, then the outcome will be inequitable, as judged by Barnett, Saliba, and Walker's own standard. On the other hand, if their notion of equity is satisfied fully, then public overprovision of kidneys will occur. In either case, it would not be possible to argue here that the free market in conjunction with the government acting as a third-party payer-of-last-resort satisfies appropriately both the equity and efficiency concerns. As soon as the possibility of conflict is admitted, then much of the rhetorical force of Barnett, Saliba, and Walker's argument is lost. In contrast to their message, a need may exist to make a trade-off between efficiency and equity. We cannot

5. See Brennan and Lomasky 1992 for a discussion of the tenuous link between social optimization and electoral choice.

6. Barnett, Saliba, and Walker claim in footnote 6 that "the demand curve for kidneys without a third-party payer-of-last-resort [D_M] must lie below the demand curve for kidneys with a third-party payer-of-last-resort [D_E], at least at the maximum number of kidneys needed (Q_{MAX}). There would be no need for government to act as the third-party payer-of-last-resort if private charity were sufficient to assist poor and uninsured people who needed a kidney transplant" (2001, 376). Their argument that the putative failure of private charity provides a case for government intervention is erroneous. The need for the government to act cannot be grounded properly on the presumed case of market failure alone. It relies instead on some demonstration that the government failure will be less than the market failure. On this issue, Barnett, Saliba, and Walker offer no analysis or evidence.

7. In the case of issues such as organ transplants, one expects a difficult and contentious interplay between moral and efficiency concerns, but the analysis here based on social demand and cost considerations appears to leave no room for moral issues to enter the discussion. The entire efficiency analysis centered on dollars would seem to be missing a crucial aspect of the debate. Although I admit that it is difficult to capture moral imperatives fully in a demand-and-supply framework, a step toward the integration of moral and efficiency concerns can be made. In order to pay some service to moral concerns without overly complicating the analysis, I ask readers to assume that the external demand curve represents the fully reflective preferences of the collectivity for kidney transplants.

say in general that providing a kidney to everyone who needs one will be a socially efficient outcome.

Even if one admits the possibility that Barnett, Saliba, and Walker are correct in portraying the marginal external benefits as represented by D_E, and that it is also appropriate to model the government as a benevolent and omniscient despot, then their analysis falters by taking an overly romantic view of the cost of public provision. Over the past twenty years or so, one of the major insights to come out of public-sector economics is that the marginal cost of government provision ought to include the marginal excess burden of taxation. In order to see the potential importance of this development, reconsider my figure 1. Suppose that the government's budget is balanced initially and that a decision to subsidize kidney transplants requires the introduction of a tax on a relatively inelastically demanded good. Suppose the maximum amount of revenue that can be levied by taxation of this good is given by R^{NB}_{MAX}, where the superscript NB stands for the narrow tax base; and imagine that the full marginal cost of provision is represented by MCF^{NB}. The marginal excess burden as a percentage of funds raised is represented by the vertical distance between MC_G and MCF^{NB}. The marginal excess burden grows at an increasing rate, reflecting the basic tax proposition that the excess burden of a tax increases with the tax rate more than proportionately and becomes infinite at the point at which revenue is maximized.

In this specific setting, even if Barnett, Saliba, and Walker are correct in assuming that D_E accurately represents the marginal social external benefits from kidney transplants, then some individuals who require a kidney should not receive one, at least on efficiency grounds. The socially optimal quantity of transplant kidneys, determined here by the intersection of the marginal social benefit and the marginal cost of public funds curves, is represented by Q^{NB}_E. In this particular case, a voluntary market unencumbered by government intervention outperforms the mixed case appropriately conceived. In the voluntary market, the medical shortage is smaller than the shortage that would occur if the government were obedient to the actual willingness to pay; that is, $(Q_{MAX} - Q_C)$ is smaller than $(Q_{MAX} - Q^{NB}_E)$. Equally, in the voluntary market, relatively more of the Pareto-relevant externalities are internalized at a lower resource cost. The net benefit under deregulation here is greater than the net benefit from the mixed case of public intervention; that is, area $(Q_RBSJ + P_0P_4LQ_R + P_3KT)$ is larger than $\{(Q_RBEZ - Q_RAYQ^{NB}_E) - CAFN - [AYZH - (P_0VHQ_R + WP_4LG)]\}$.[8]

8. The net gain from deregulation to a voluntary market is based on a number of propositions. Part of the gain from deregulating the market and moving toward competition is an expansion in the supply of $(Q_C - Q_R)$ kidneys. Suppliers of the additional kidneys receive some additional producers' surplus, consumers gain some additional consumers' surplus, and the additional provision results in greater internalization of the external benefits. The gain from all three sources is represented by area Q_RBSJ. I have assumed that

I admittedly make no claim that the voluntary market will always outperform a mixed case of public and private provision. If the kidneys provided in the mixed case can be distributed without any rent-seeking costs, then any divergence that might exist between the demand and supply prices of kidneys will not result in a dissipation of the social surplus. Likewise, if the government has access to a broader base tax, then the marginal cost of public funds will be relatively smaller, and a government that is responsive to efficiency concerns may be able to internalize a larger amount of the marginal external benefits than would be internalized in a voluntary market.

Nevertheless, even under these somewhat heroic conditions of access to broader-based taxes and, in particular, of no rent-seeking costs, a need may still exist to trade off equity and efficiency. If the marginal social benefit curve intersects a marginal cost of public funds curve anywhere to the left of Q_{MAX}, then not all individuals who require a kidney should receive one, at least on efficiency grounds.[9] Barnett, Saliba, and Walker's claims manifestly have the power to mislead. The mixed case of private

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under the regulated outcome the kidneys donated were allocated to the individuals who were willing to pay the most. If this were not so, then the voluntary solution will have an additional gain resulting from efficiency in exchange.

In the regulated market, there is a difference of $(P_4 - P_0)$ between the demand and supply prices. Suppose the divergence results in competitive rent-seeking costs represented by the rectangle $P_0P_4LQ_R$. In a voluntary and competitive market, no rent seeking occurs. Consequently, part of the gain from deregulating the market is that the rent-seeking costs are avoided.

In conformity with Barnett, Saliba, and Walker's model, my figure 1 assumes that the government in the regulated market acts as a third-party payer-of-last-resort, requiring tax revenue represented by area $P_0P_4LQ_R$. By construction, the rectangle P_0P_3TX represents an identical area to rectangle $P_0P_4LQ_R$. The excess burden of the tax, represented by area P_3KT, is found by summing the area between the marginal-cost curve and the marginal cost of public funds associated with a rectangle P_0P_3TX. Because deregulation does not involve any public provision, no additional revenue need be raised, and the loss associated with the excess burden of the tax is avoided. Consequently, the area P_3KT, which is now avoided, represents part of the gain to the collectivity.

When an efficiency-maximizing government acts as a third-party payer-of-last-resort, the net gain from deregulation is determined as follows:

Area Q_RBEZ represents the gain from the additional provision of $(Q_E^{NB} - Q_R)$ units in terms of consumers' surplus, producers' surplus, and external benefits. But some portion of the gain from the expansion in kidneys represents a transfer from taxpayers to individuals in the kidney market. Consequently, the net gain from expansion is represented by $Q_RBEZ - Q_RAYQ_E^{NB}$. Under the mixed case, the government is assumed to act as a third-party payer-of-last-resort, requiring tax revenue represented by area $P_0WYQ_E^{NB}$. By construction, the rectangle $P_3NQ_CP_0$ represents an area identical to rectangle $P_0WYQ_E^{NB}$. The excess burden of the tax, represented by area P_3FN, is found by summing the area between the marginal cost curve and the marginal cost of public funds associated with rectangle $P_3NQ_CP_0$. The *additional* excess burden associated with the expansion in public provision over the amount incurred at the regulated outcome therefore is represented by area CAFN, which consequently also represents an additional loss to the collectivity.

In the current regulated market, the loss from rent seeking, $P_0P_4LQ_R$, is determined by the divergence between the demand and supply prices over the relevant quantity. The cost of rent seeking in the mixed case of public and private provision is represented by the divergence between the demand and supply prices over the relevant quantities, represented by area VZYW. In the case under consideration, there is a rise in rent-seeking costs represented by area $[AYZH - (P_0VHQ_R + WP_4LG)]$.

9. If the external benefits from kidney transplants are considerably greater than those represented by Barnett, Saliba, and Walker's figure 2, then it is possible that the social demand curve will intersect the marginal cost of public funds curve, MCF^{NB} at Q_{MAX}. In this case, the equity objective will be satisfied at the same time that the efficiency concern is met. There is no necessary reason, however, why this fortuitous set of circumstances should arise. In all other cases involving relatively smaller external benefits, some trade-off between efficiency and equity must be made.

and public provision will not necessarily resolve all equity and efficiency concerns related to kidneys. Equity achieved in the market for kidneys may occur only at the expense of government overprovision of kidneys. Public overprovision of kidneys implies that other more valuable projects, such as building safer roads or providing additional funding to basic research into cancer, will have to be given up. Mixed provision of kidney transplants will not necessarily obviate the need to make tragic choices.

References

Barnett, W., M. Saliba, and D. Walker. 2001. A Free Market in Kidneys: Efficient and Equitable. *The Independent Review* 5, no. 3: 373–85.

Brennan, G., and L. Lomasky. 1992. *Democracy and Decision: The Pure Theory of Electoral Preference*. Cambridge, U.K.: Cambridge University Press.

Brooks, M. 1996. Towards a Clarification of the Excess Spending Debate. *Journal of Public Finance and Public Choice* 14: 31–39.

Holcombe, R. G. 1980. Concepts of Public Sector Equilibrium. *National Tax Journal* 33: 77–88.

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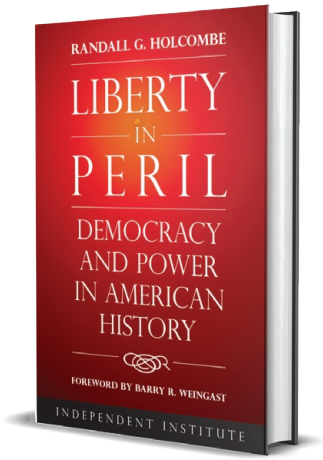

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