

Norman Schofield · Gonzalo Caballero · Daniel Kselman *Editors*

Advances in Political Economy

Institutions, Modelling and Empirical Analysis

This book presents latest research in the field of Political Economy, dealing with the integration of economics and politics and the way institutions affect social decisions. The focus is on innovative topics such as an institutional analysis based on case studies; the influence of activists on political decisions; new techniques for analyzing elections, involving game theory and empirical methods.

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277 In addition to the Constitutional principal and the policy-setting principal, there
 278 is also the stage of implementation of the policy, and the contract enforcement at
 279 the implementation stage is also conducted by the principal or some authorized
 280 representative thereof. If, for example, a patient has no assets to cover a life saving
 281 or life extending treatment, it is up to the medical provider on site to deny her care if
 282 that is what the contract calls for, and a doctor or a hospital in that case unilaterally
 283 represents the societal principal.

284 In a sense, we have three different personifications of what colloquially is treated
 285 as the same actor in matters of welfare provision. Multiple personifications how-
 286 ever imply separate actors with distinctive preferences and potentially conflicting
 287 interests. Our model exposes the implications of these conflicting interests within
 288 different institutional structures.

289 The three types of actors representing the societal principal are labeled below
 290 as EAP, IP, and PP. An Ex-ante Principal, EAP, acts at the constitutional stage. An
 291 Interim principal, IP, depending on the constitutional choice, can be either majori-
 292 tarian or by unanimity (IPM or IPU). Notice that the by-unanimity interim principal
 293 is comprised of the same people but differs from the ex-ante principal by the level
 294 of information that members of the society have about their own types and the dis-
 295 tribution of types in the population. Finally, at the implementation and enforcement
 296 stage, there is the Ex-Post Principal, PP.

297 All four (counting both IPM and IPU) actors representing the principal, we claim,
 298 share the basic preferences as postulated by Kornai and Eggleston (2001) which we
 299 discussed above.

302 *2.1 The Ex-ante Rawlsian Principal*

305 Rawls's premise and Kornai–Eggleston's assumptions have been historically ap-
 306 pealing to scholars of political economy. Hayek has argued as far back as 1945 that:

308 There is no reason why, in a society which has reached the general level
 309 of wealth ours has, the first kind of security should not be guaranteed to all
 310 without endangering general freedom; that is: some minimum of food, shelter
 311 and clothing, **sufficient to preserve health**. Nor is there any reason why the
 312 state should not help to organize a **comprehensive system of social insurance**
 313 in providing for those common hazards of life against which few can make
 314 adequate provision. (emphasis added, Matthews 2010)

315 Fuchs (1996, 16) also states that medical care meets Adam Smith's 1776 defini-
 316 tion of a necessary—in that it is necessary to sustain life and that it is indecent for
 317 even the lowest people in society to be without it.

318 Insofar as the total (or average) cost of the policy is concerned, we assume that the
 319 constitutional principal, EAP, prefers it minimized as long as acceptable outcome is
 320 achieved with regard to care. Provision of healthcare at some level viewed as ade-
 321 quate is the first priority, while cost-minimization is secondary. We stay away from
 322

Table 1 Utility functions of the four types of principals

	Minimal adequate care	Personal tax burden	Societal cost (average tax burden)
EAP	Yes		Yes
UIP	Yes	Yes	
MIP	Yes	Yes	
PP	Yes		

the discussion of whether it is possible to view as minimally adequate a level of care that the society cannot afford (there is research to suggest that the notion of what is adequate may vary, to a point with the societal wealth, see Attfeld (1990), Blank and Burau (2006), Howell and McLaughlin (1989)). Also, given the Kornai–Eggleston assumption of lexicographic preference for basic care provision, we do not include in consideration any surplus care beyond what is minimally adequate and make no additional assumptions about individual and societal preferences for that.

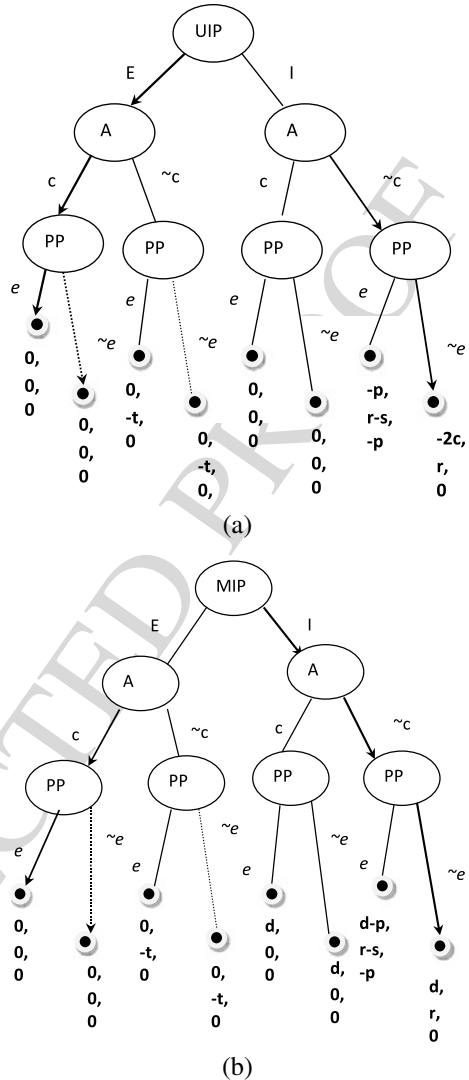
Table 1 summarizes the composition of the EAP’s utility function, and also highlights the distinctions in the utility functions of the actors-principals. We elaborate on these differences below.

2.2 Interim Principal—The Policy-Setting Body

Our interim principal is a coalition of individuals in the society of the size and composition as empowered by the constitution to be decisive on the fundamentals of the healthcare policy. It chooses the contract with the agent-patient which constitutes the healthcare policy. The choice of the contract/policy can take place anywhere from a constitutional body or a referendum to a legislative chamber or even the local government, depending on the rules in place. Importantly, only under unanimity, the set of members of the decisive coalition for policy is fixed at the outset as the entirety of the society. Under all other rules, the membership of the decisive coalition is endogenous to the policy choice and thus a pair: (specific policy choice; specific make-up of the decisive coalition) must be an equilibrium outcome of the interaction according to the rules of the decisive body.

In Fig. 2, we compare side by side the process of policy making and implementation where the venue for policy choice is a constitutional (unanimous) body versus a legislature with simple majority rule (the UIP or MIP respectively). Be it unanimous or majoritarian, the interim principal offers the patient/agent a contract of some sort. The contract might be: “we are going to automatically withhold a portion of yours and everyone else’s earnings, and in return we assume the responsibility for taking care of your health.” Something like that would effectively mean the entitlement single-payer system. Or a contract might read: “You can buy as much health coverage as you choose, either directly from providers at point of service, or by means of purchasing a specific amount and type of health insurance. You will be provided only with the services which either you or your health insurance can finance and

369 **Fig. 2 (a)** Decision by
 370 unanimity: Some members of
 371 the decisive coalition will
 372 have to finance the case of the
 373 individual non-compliance/
 public non-enforcement.
 374 **(b)** Decision by majority rule:
 375 Members of the decisive
 376 coalition are exempt from
 377 taxation to cover the costs in
 378 the case of the individual
 379 non-compliance/public
 380 non-enforcement



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 404 nothing beyond that, regardless of your health needs.” This would be the contract
 405 behind an ideal type of a pure market private insurance system. In the model in
 406 Fig. 2 we limit ourselves with these two extreme types of policy choices, though
 407 in practice the full range of in-between options might also be available. While all
 408 contracts have their implementation issues, below we show that the latter is fun-
 409 damentally non-enforceable, yet even knowing it to be non-enforceable, decision
 410 bodies of certain types would choose to adopt such a contract.

411 The utility function of a citizen as a member of an interim principal is more
 412 specific than that of the EAP in regards to which costs become the part of the cal-
 413 culation. Notice, that the contract/policy necessarily must include the a) the funding
 414

415 principle, b) the level of services (only covered or all that is necessary), and, c) also
 416 must stipulate the fallout provisions, as in what to do when there is a cost overrun.
 417 We claim that such provisions are indeed in place, through the access to the general
 418 state budget, and that they are implied within the broad constitutional framework of
 419 the state. We will thus assume that any shortfall which might arise from enforcement
 420 failure is made up from regular taxation, where the general tax burden is allocated
 421 via the majoritarian process. From that our actors who know what share of the tax
 422 burden they bear can form expectations about the share of the cost overrun that will
 423 fall on them if the enforcement of the contract/policy fails.
 424

425 426 **2.3 *Ex-post Principal at the Contract Implementation Stage*** 427

428
 429 At the time of enforcing the market-type contract/policy, the ex-post principal is a
 430 citizen in a position of authority who acts on the society's behalf, such as a doctor
 431 or administrator in an emergency room where an uninsured patient shows up. This
 432 individual then has to make a decision on whether or not to treat the patient who is
 433 in breach of a contract. It has been long claimed that at this stage the market-type
 434 contract goes unimplemented: though patients cannot pay and have failed to carry
 435 sufficient medical coverage, they receive the treatment which ought to be denied to
 436 them according to the rules, including treatment for not immediately life-threatening
 437 conditions. Providers thus incur costs which they cannot recoup from these patients,
 438 and such costs, in one way or another, are eventually transferred to be covered by the
 439 society at large, either by overcharging the paying patients or through infusions from
 440 state budget. This observation is consistent with our assumption that the principal
 441 adheres to Kornai and Eggleston's premises. Specifically, PP holds a preference to
 442 treat the patient and to not deny care to the poor which he would be able to offer to
 443 the rich. IP, in a position to sanction PP most severely, in turn prefers not to do that
 444 because the alternative outcome for the patient—her continued sickness or death—
 445 is considered even worse by the IP as well. This could be the last move in games in
 446 Figs. 2a and 2b, but we leave it unmodelled for it is redundant given the assumed
 447 preference of the principal. This redundant move by UIP or MIP is sufficient to
 448 justify the use of state budget to cover cost overrun. The last resort access to state
 449 budget follows logically from the Kornai–Eggleston assumptions.

450 In the model's terms, then, the ex-post principal, PP, has the choice at the last de-
 451 cision node to *enforce* or *not enforce* a contract (in the case of *Entitlement*, the con-
 452 tract is enforced via taxation, so there the move by PP that we show is redundant³).
 453 These choices, e versus $\sim e$, apply under *Insurance* health policy to enforcing the
 454 implied “no-care” policy for those without purchased adequate coverage and with-
 455 out sufficient private funds to cover the cost of treatment. Parameter $-p$ in the PP
 456

457 ³The choice to enforce or not to enforce the “no care” provision reappears where the entitlement
 458 is not universal, and might apply, for example, when the treatment of immigrants/non-citizens is
 459 concerned.
 460

461 payoff captures this utility loss from having to deny a patient needed care because
 462 of his or her failure to pay or carry insurance. It captures Kornai's premises, and as
 463 it applies to every individual in the society, it is felt by the ex-post principal, but it is
 464 also present in utility functions of other actors-principals, EAP, UIP, and MIP. They
 465 all sustain loss if care is indeed refused to a patient.

466 The Agent (patient) values her health and wants to receive care if sick. But gen-
 467 erally she does not like to bear the costs according to the contract/policy. In reality,
 468 the agent sometimes is financially unable, not just unwilling, to bear the cost of a
 469 serious treatment or of an insurance that would cover such treatment—but that con-
 470 sideration calls for a separate, normative argument, and so we do not include that
 471 possibility in our model. Here, the agent abides by the contract choosing between c
 472 (*comply*) and $\sim c$ (*not comply*). To *comply*, depending on a subgame, means either
 473 to pay the social tax or buy enough insurance (zero may be enough if no treatment is
 474 sought). To *not comply* in a single-payer system requires that the agent stays out of
 475 the workforce, and her payoffs reflect that. In a market-type system, *not complying*
 476 consists of two components: how much coverage one has purchased and how much
 477 care she is requesting. Thus, to *comply* means to ask for care in the amount the pa-
 478 tient/agent has covered. To *not comply* means to ask for care in excess of what she
 479 can pay for.

480 The decision to not comply in the Entitlement case is strictly dominated for the
 481 agent since it equals non-participation in employment thus escaping universal tax.
 482 This is indicated in Fig. 2 by the utility loss of $-t$ due to the loss of wages. Gen-
 483 erally, we stay away from the problem of enforcing tax collection, thus de-facto
 484 assuming that tax collection is enforced. The same, however, is not the case with
 485 *compliance* under the market-based policy. Not buying insurance does not by itself
 486 constitute non-compliance, and therefore cannot be punished or otherwise enforced.
 487 The contract can be enforced only at the point of service, when denying care to a
 488 sick uninsured patient who chose to request care. If the contract is enforced, the
 489 agent sustains a catastrophic utility loss from avoidably getting worse, a decline in
 490 the quality of life, or from dying. If on the other hand the contract is not enforced
 491 by the PP and care is provided, then no such utility loss to agent occurs while no
 492 contribution to financing the care is made by the agent-patient.

495 3 Health-Related Technology and Costs to Actors

498 3.1 *Extra Cost of Delivering Health Care as Emergency Care*

500 In Fig. 2, $c > 0$ captures the financial efficiency loss from substituting emergency
 501 care for preventative and regular care. Scholars of healthcare consider it a major
 502 objective to determine whether similar health outcomes can be reached with greater
 503 efficiency under some medical “technology” compared to others. Specifically, a sub-
 504 stantial consensus has developed that investment in preventative measures gener-
 505 ates much better returns than that in high-end life-saving medicine (see Halfon and
 506

507 Hochstein 2002, among others). This effect is potentially explained by the fact that
508 consistent preventative and regular care reduces the instances of having to save lives
509 in emergencies (Institute of Medicine 2002).

510 If we accept the tradeoff in favor of preventative medicine as efficient, then logic
511 dictates that the principal who is willing to pay for emergency procedures should be
512 willing to pay for the cheaper preventative medicine as it replaces at a lower cost
513 some of the eventual emergency medicine. Put plainly, since we are willing to pay
514 (and are paying) for the latter, we should be willing to replace a part of that with
515 “regular” care, since regular care is cheaper than treating the share of emergencies
516 that it will prevent. There is even a possibility that regular and preventative care
517 may boost the productive resources of the society (Bloom and Canning 2000) and
518 generate a net surplus, thus paying for itself twice.

519 So combining the premise of preference for saving lives in an emergency with
520 the technological fact that emergency care is more expensive than regular care as its
521 substitute, we must conclude that the principal prefers the outcomes where regular
522 and preventative care is consistently applied.

523 Summing up the discussion of the aspects of medical technology that affect the
524 overall cost to the principal, we can conclude that the information that we have about
525 the aims in the social welfare function and the cost structure in the medical field
526 lead to the prediction that the overall cost to the principal is minimized when the
527 outcome is that all have preventative and regular care, and when health is financed
528 in a society-wide “insurance” or other redistributive pool.

531 **3.2 Marginal Costs of Healthcare Are Increasing**

532
533
534 Technology aspects bearing on the costs to agent/patient add further complexity.
535 Having mentioned earlier the possibility of paying with private funds for care, we
536 mentioned that such funds are unlikely to be available (with the exception of very
537 few individuals) when it comes to urgent need for specialized and critical care. Here
538 is the right place to elaborate why that is the case, and consequently why the fi-
539 nancial transfers from the healthy to the sick are a present-day necessity. They are
540 necessary, and it is pure luck that, according to Kornai and Eggleston (2001), the
541 collective principal has preferences consistent with authorizing those transfers.

542 For almost any individual or family, as the costs of medical innovations and life-
543 saving procedures rise, as is implied by the technological characteristics of medical
544 innovations, the cost of treatment *if* one actually becomes very ill exceeds the ability
545 to pay.

546 The distinctive nature of healthcare as a good, another technology-related aspect,
547 accounts for the second-order market failure following the first-order market failure
548 as described above. Where with any other good the financial markets would make
549 the resources available, and the price of credit would be bolstered by the strength
550 of the individual’s demand for such credit, with financing health this approach fails.
551 This is because in financing healthcare a lender would be financing the “investment”
552

553 in the survival and the subsequent earning ability of a sick individual—the greater
 554 the demand for funding, the sicker the individual and, so to speak, the weaker the
 555 “collateral.”

556 The view that individual savings can become a means of financing health care
 557 is similarly fallacious for related reasons. A large number of the sickest patients
 558 are sick because of genetic or related to genetic predispositions reasons and thus
 559 need expensive care when they are younger than the wage-earning age. Moreover,
 560 this view once again fails to account for the peculiarities of health as a good. The
 561 costlier variety of health care is demanded by the sickest individuals in a society—
 562 by precisely those who encounter additional difficulties in developing their earning
 563 capacity in the knowledge-based economy and present high risk as potential
 564 hires. And later in life, once an illness strikes, maintaining one’s career can be near
 565 impossible even for high-earning individuals. Finally, almost a necessary precursor
 566 to high earnings in a modern economy is accumulation of massive debt—not
 567 savings—during the stage of professional education and early career development,
 568 which excludes a large portion of the demographics from the ability to accumulate
 569 savings of sufficient size to fund a serious treatment.

570 A combination of failure to purchase adequate amount of insurance, not having
 571 enough ready money, and getting sick and requiring treatment falls in our category
 572 of non-compliance with the market-type health contract/policy as in Fig. 2. In our
 573 abstract representation, it is up to an individual to decide how much insurance or
 574 care to purchase, as long as she does not attempt to receive anything beyond what
 575 she paid for. In other words, one can look at the situation from the following angle:
 576 *asking* for treatment for which you are not eligible under this form of the social
 577 contract is what constitutes non-compliance by the Agent (patient).

580 ***3.3 Is Consumption of Healthcare Peculiar?***

581
 582 The next question that we need to ask ourselves as we generate the payoff functions
 583 for our model is to what extent and when is the demand for healthcare elastic? Pauly
 584 (1986) revisits the application of the economic model of insurance to health care to
 585 argue that tax subsidies to health insurance create incentives to overuse health care.
 586 He argues that moral hazard plays a strong role in medical insurance. Here, moral
 587 hazard can either occur when the presence of health insurance causes the insured
 588 person to spend less on preventative care—i.e. to take greater risks because the of
 589 certainty of coverage in the event of an illness—or it occurs when the purchase of
 590 insurance causes a person to spend more to treat an illness than that person would
 591 have spent without the insurance. (1986, 640) As an example, Pauly cites data showing
 592 that people who are insured for only part of the year use ambulatory care twice
 593 as much while insured than while uninsured. (1986, 636). He assumes that the relative
 594 lack of care while uninsured indicates the true value of health care for this
 595 group—thus the care consumed while insured constitutes overconsumption.

596 The moral hazard notion has a number of critics. A RAND corporation experi-
 597 ment notes that high levels of co-pays for health insurance will induce people to use
 598

599 less health care, but not necessarily in an efficient way (Gladwell 2005). Many of the
600 services they neglected were necessary and using them could have decreased, rather
601 than increased, overall costs. In a popular article, Gladwell (2005) thus portrays the
602 real-life choices many lower income people make in health care consumption:

603 Steve uses less health care than he would if he had insurance, but that's not
604 because he has defeated the scourge of moral hazard. It's because instead of
605 getting a broken bone fixed he put a bandage on it.
606

607 Gladwell's numerous colorful examples show that, rather than revealing low util-
608 ity for health care, many choose not to purchase health insurance because that pur-
609 chase would make it impossible for them to purchase anything else. If this is the
610 case, then we must be careful to not let concerns regarding misuse of medical care
611 be inflated in assessing efficiency.

612 This elasticity, manifested in reduced demand below some basic level of neces-
613 sary care due to agent's inability to pay, is contrary to the principal's preferences,
614 and therefore a decrease in demand for these reasons decreases the principal's util-
615 ity, costs notwithstanding. And it might not even reduce the costs: Currie and Gruber
616 (1996) explore the effects from the extension of Medicaid services to a larger pro-
617 portion of people. They note that, consistent with Pauly's findings, following the
618 increased opportunity to use health services, a larger number of people made use of
619 them. They also note that this use was beneficial—child mortality decreased signif-
620 icantly. In terms of efficiency, they argue that the cost per life saved was lower than
621 the typical “value of a human life”—or that the benefits of the Medicaid extension
622 were higher than the costs. This is consistent with the claim that access to regular
623 care is less costly than reliance only on emergency care.

624 Another aspect of moral hazard with agents-patients arises when they do not put
625 enough effort in preventative care and so eventually run up the cost of treatment by
626 developing advanced diseases or acute problems. However, since they are unlikely
627 to delay seeking treatment when they have coverage as compared to those who are
628 uninsured, this possibility merely has the potential to wipe out some of the cost
629 gains. Yet one more instance of moral hazard is when patients fail to select the
630 cheaper and more efficient providers and treatments out of available alternatives.
631 This can be addressed by incentive schemes in a straightforward way. To encourage
632 the use of preventative care which may be personally costly in terms of time and
633 effort, the principal may choose to reward desirable behavior of individuals. When it
634 comes to encouraging economical use of health care resources, health care structures
635 must provide incentives.

636 637 638 **4 Health Policy Choice: Entitlement Versus Market** 639 **(Insurance-)Based Contracts** 640

641 We simplify the field of healthcare provision mechanisms to two stylized policy
642 extremes between our policy makers who will be choosing using their constitu-
643 tionally decided decision rule: the entitlement mechanism with automatic flat tax
644

645 versus fully individualistic purchase (of either healthcare of health insurance). The
 646 Entitlement policy is the single payer guaranteed basic care provision funded with a
 647 universal tax on all workers (a system like the funding of Medicare and Social Secu-
 648 rity). The single payer system generally collects taxes from the population and uses
 649 that money to fund universal health care for its population. On the one hand, it max-
 650 imizes the size of the risk pool, and on the other hand it requires making resource
 651 allocation decisions that would allow the resource expenditures over the entire pop-
 652 ulation to fit within the budget constraint. Both of these aspects of the *Entitlement*
 653 policy choice are outside of our analytical framework here. We do not rely in our
 654 conclusions on assuming that population wide risk pool improves financial solvency
 655 of the system, nor do we address the decision by the principal of what healthcare
 656 services and under what circumstances must be provided to each person.⁴

657 658 659 **4.1 The Model** 660

661 Our model analyzes the choice of policy coverage using backward induction. In
 662 Fig. 2a, we depict the choices made using unanimity rule. In this situation, the UIP
 663 must decide between health care as an *entitlement*, E , or through private (*insurance*)
 664 purchase, I . Next, the Patient/agent, A , either *complies* (c) or not ($\sim c$) with the
 665 requirements of either coverage scheme. Finally, the PP chooses whether to *enforce*
 666 (e) or not ($\sim e$) the rules of the given coverage scheme at point of service.

667 Moving now to the stylized model of constitutional and policy choice, payoffs
 668 in Fig. 2 to all three actors-principals reflect their preferences for delivering health
 669 benefits according to Kornai and Eggleston (2001). The other model's necessary
 670 component is the allocation of costs within the principal, and payoffs to EAP, UIP,
 671 MIP, and PP reflect those costs as they are born by each particular type of a player.
 672 A contract that the principal chooses consists of a funding scheme and of the guar-
 673 antee of the delivery of the good (healthcare), which may or may not be a function
 674 of the agent's contribution to funding. Due to the lexicographic preferences in the
 675 polity, the budget constraint within the health policy area is soft and provision does
 676 not have to cease when designated funding is depleted.⁵ This is not an ad hoc as-
 677 sumption but follows from the presumed preferences of the PP and the nature of the
 678 enforcement process. In short, it is this assumption that identifies the particular case
 679 of collective action problems that we address.

680 In this essay we choose to treat the soft budget constraint in regard to health as an
 681 assumption, but it could be viewed a part of an equilibrium strategy of the principal
 682 who, among other things, could be asked to decide whether or not to hold the budget
 683

684 ⁴For arguments regarding the relative efficiencies of single payer versus private insurance systems,
 685 see Sieberg and Shvetsova (2012).

686 ⁵As noted by a reviewer, the terms 'soft constraint' appears to be an oxymoron. We use the term
 687 here to distinguish between the intended constraint on health care spending determined by private
 688 purchase and the extra spending, that must covered by taxation, because the principal is unwilling
 689 in the end to let the people pay the price for their own decisions.

691 constraint as firm at a price of human lives or health. The source of additional funds
 692 presumably is the national budget, where the budget constraint is firm but one could
 693 allow for borrowing against the next period or redistributing from other spending
 694 areas.

695 Thus, to make up for the potential shortfall in the area of healthcare, in parallel,
 696 and in the background, there is a nesting policy of general taxation addressed in the
 697 extant literature discussed in the next section. General taxation to cover any care that
 698 was provided but not purchased, we here assume, is always decided by majority.⁶
 699 Thus we can fall back on the results on the median voter tax preferences.

700 Constitutional choice for policy procedure that we model applies only to the area
 701 of healthcare. But actors in their decisions are cognizant that it takes place under the
 702 expectations generated by majoritarian general taxation and this factors into their
 703 expected payoffs. We show that the majoritarian procedure leads to exploiting the
 704 state budget in lieu of designing an efficient policy-specific financing mechanism.
 705 The combined (health policy-designated budget, plus cost overruns covered from
 706 general taxation) funding mechanism will be more equitable if the decision is made
 707 by unanimity, and will end up more redistributive when the decisive coalition dimin-
 708 ishes in size (e.g., under majority). This is because when the contract is designed by
 709 (ex-ante) unanimity (as in the case of UIP in Fig. 2a), there does not exist a minority
 710 outside the decisive coalition which could be legally obligated to disproportionately
 711 finance the policy (or as may be the case in the US, its cost overruns), so every
 712 person will have to agree to bear a part of the burden.

715 ***4.2 The Median Voter Theorem and Majoritarian Taxation***

717 While the taxing decision is not included in the extensive form in Fig. 2, it is cer-
 718 tainly implied and must be accounted for in the payoffs of the interim principals
 719 both in Figs. 2a and 2b. Under a private insurance system, individuals will purchase
 720 a certain amount of coverage, beyond which they should not get treatment. How-
 721 ever, there is a contingency where the ex-post principal will not deny treatment in
 722 the case of need. If, ex-post, these unfunded expenses are covered from general tax-
 723 ation, agreed on by majority rule, then majority preference over healthcare policy
 724 that generates budget overruns will depend directly on how much of this excess
 725 burden is borne by the median voter.

727 Scholars of fiscal policy (see, e.g., Meltzer and Richard 1981, 1983) rely on
 728 the premise that median income is way below the mean of the income distribution
 729 and thus redistributive taxation by majority is enabled. The voluminous body of
 730 literature predicts it to be placing the chief burden of taxes on the wealthy minority.
 731 In a population with an income distribution that is skewed towards the left, the

733 ⁶In general, taxes can be used to fund a host of services, projects, redistribution schemes, etc. To
 734 avoid complication, we merely address the issue of taxation to finance extra health care spending
 735 here.

median voter has a lower income than the mean voter. This voter, then, has more incentive to demand redistributive taxation (see Rosenthal and Eibner 2005, Nelson 1999) because she bears less of the burden. Holcombe and Caudill (1985) show that the median voter can bear no tax burden at all. In this case, the median voter prefers an insurance system in which she pays only for her own insurance, and wealthier voters pay for the care of those who need care beyond their level of coverage. If this holds, then a healthy median voter would pay less under an insurance scheme than with *Entitlement*; thus her payoff for *Insurance* is d which is greater than or equal to the baseline payoff of 0. This idea is consistent with other research on the link between the median voter's tax share and social spending. For example, Corcoran and Evans (2010) find that a reduction in the median voter's tax share induces higher local spending on public education. Thus the expectation of the majority coalition on the dimension of general taxation is zero personal contribution to paying for the cost overrun on healthcare.

4.3 Median Preferences on Healthcare Policy

The next step to identifying the payoff to MIP is to see what the median on healthcare dimension expects to pay and to receive. Adding the premise that the distribution of health is skewed similarly to that of wealth but in the substantively "opposite" direction, we assume that the mean "level of sickness" is above the population median, meaning that most healthcare costs (due to the costly specialized care and severe disability maintenance) are demanded by a relatively small minority of the population.

As an illustration, consider a hypothetical example with binary types in the population on each dimension. Suppose, to keep it simple, that individuals who comprise the principal at the interim stage know their health type as well as their wealth type, and the probabilities are .2 of the wealthy type on the dimension of wealth, and .2 of the sick type on the dimension of health. Then the joint distribution in the voting population deciding on healthcare policy given that cost overruns are made up from general taxation becomes as in Table 2.

Notice in the illustration in Table 2 that in this rather extreme case 64 percent of the electorate will not need to pay anything for their own healthcare AND are not going to be in the fiscal pool for general taxation. Relatively to the baseline payoff from *Entitlement* policy, with its uniform tax, they are thus saving some positive amount d , as reflected in the payoffs to the MIP in Fig. 3.

In real circumstances, the distributions of health and/or of wealth might be relatively more centered, yet the coalition with preference for *Insurance* might still

Table 2 A hypothetical distribution of types in the electorate

	Poor	Wealthy
Sick	.16	.04
Healthy	.64	.16