

1 can like gt. plains farm. -- ready to adapt.

"In favor of enterprise". Contrast H.M. vs. D. & my middle position

People keep rediscovering econ. & giving it new names. McNamara method; cost-effectiveness; B-C anal.; Program budgeting; systems anal.; ops. anal.
∴ discouraging to hear an econ. telling us it isn't so good. I will try to say a few words in its favor.

Intro

Baffling

Too many starts, ^{like} no completions ^{like U.S. Public works programs.} of thought.

This paper is very stimulating, but also unsatisfying -- strip-tease.
Hard to come to grips w., either to support or oppose.

But show must go on ^{performer's intentions,} so I will infer, read between lines, and if I misconstrue ^{performer's intentions,} will accept corrections in good grace.

Positive

Good lecture in some basics of welfare econ. & history of econ. thought.
Approp. here, interdiscipl. gathering.

But there are different traditions in ^{welfare} econ., some of which lead to decision, some of which delight in piling up difficulties [≠]
.. (some people are part of the problem solution, others of the problem)

D. stands squarely between. Piles up difficulties, but offers at least one firm policy position -- vs. user charges; ^{also is} for large investments [justified by externalities, ^{options} demonstration effects (the analogy of the seductive strip-teaser comes to mind again -- she also stimulates demand, & learning by doing, & I wonder if she shd. be subsidized?)] Even the ^{has externalities?} difficulties point to a conclusion, that ^{objective} merit is vain; ^{subjective} value judgements must prevail; ~~user charges are undesirable~~; underestimate of benefits (how about costs?) results from insisting on unreasonable standards of output.

† One technique is to define unrealistic ideal, reject all lesser measures.
"No-painacea-ism"

In this, as in D's earlier work, I find much sympathy.
 I share his uneasiness w. those who seek to ~~what~~ ^{on rent & dep'n. allowance} ~~analogy~~ ^{analogy} user charges & thinking they have a what. analogy (they don't).
 Many pub. goods are supplied on time-charge basis: insurance, telephones, advertising, my furnace contract, even hotel rooms in a sense).

So emphasize that basic agreement.

But he hasn't worked out details. I ^{won't} suggest a few, for lack of time. He has overstated case, I will try to balance.

✓ 1. "General Taxn." is not really any better than user charges. Many taxes are user charges on various things.

Only taxes on rent really meet the test. Taxes that are fns. of time, not use.

✓ 2. A pure public good is nonsense, w. $MC = 0$, so user charges are often desirable, on other ^{circumstances}.
 E.g. street light. If truly met the criteria, ~~only one~~ ^{only one} wd. be needed for whole world.

In fact, light a limited space. Primary benefit is to landowners. Use is ^{not} rationed, ~~by~~ but benefit is rationed by landownership in ^{the} benefited area.

So w. many e.g.s. of "public" goods: flood control, all environmental enhancement. A specific limited area gets benefits. Rent & l.v. rises.

~~Spatial~~ In earlier work D was attracted for over-emphasis on rent. Here, underemphasis. ~~Also~~ Follows tradition of welf. ecs., too abstract.

So he shd. ~~not~~ use rent in this analysis.

Much that seems nebulous & intractable in abstract becomes very manageable when come down to earth.

Use of $\Delta L.v.$ gives more to many things elusive & reprehensible -- ~~not~~ e.g. the psychic value of security vs. flood. Amenities. Ethereal env. enhancement. All instable by what people pay to be near it.

Lacks utter simplicity of what. where you either buy package of razor blades or not. Access to env. grades off w. distance. ~~But~~ so instmt. problem is not absurdly simple -- "no panacea". But is what we shd. be working on. Clemons has, on rent gradient approach. Crocker is, multiple ^{by space.} ~~correlates~~. ~~so even if $MC = 0$, to mobile user, access is rationed. To a access, either people must travel further, or light must shine further. So is a MC.~~

Public goods differ only in degree Vertical summing of demand curves is bad technique, but needlessly makes a diff. of kind between public & priv. goods, & the diff. is of degree. Analytically, vertical summation is another way of say'g $MC = 0$. Better to sum horizontally and then ~~say~~ can let $MC > 0$, which it usually is, and verge into case of dec'g cost, the usual case, the one ecsts. shd. focus on.

~~Usual problem is $MC = 0$~~

Here, too, usually service is limited by space. ~~Other~~ That is what keeps it in dec'g. cost -- limits what. Distro. b. nets the common case.

Rarely so simple as $MC = 0$, [or $MC >$ collection cost.] ~~But~~ MC shd. be ~~shd~~ changed. Often user charges $> MC$,

Pollution certainly need to pay user charges, in Del. estuary

4

so D is pushing us in right direction when plumps for low charges. But underpricing is also common -- H & Millman see nothing else! So moral is we need more MC pricing, but not more zero pricing. Open range, ocean fisheries, mineral exploration, ^{pollution} use of city streets, etc. are chronically underpriced. Need greater sensitivity to rationale of MC pricing as vs. full cost pricing.

[As a corollary, need greater sensitivity to rent, bcs. $P > AC$ implies rent, & $P < AC$ means neg. rent. Again, D. needed to bring in rent concept.]

So whole concept of public good is misleading

✓ 3. I wish he'd drop this learning by doing as an external gain to justify subsidy to p.w.

a. Pvt. products also stimulate a learned demand. So shd. we subsidize them, too?

Remember, subsidy to one is penalizing everything else, must show differential virtue of subsidized thing.

b. If rank products by their ability to stimulate learned demand, probly heroin tops the list. "Value in use" becomes as dear as life itself. But that shd. give some pause in ~~sanctifying~~ thinking ~~that~~ it is adding to welfare to create new demands. ~~It is~~ Happiness is the result of ~~some~~ fulfilling desire; of getting more

pleasure from desires currently being filled. But to create new desires that cannot be fulfilled is to create more pain than pleasure.

A person's time is limited. To make him pay by taxes for more options than he has time to enjoy makes him less happy. Creates unfulfillable desires.

- ✓ 4. I gr. generaliza. that we are usually "myopic" & overweight present. On contrary, all about me I hear the old refrain of pie in the sky. Boulding, "we now spend funds we do not have, in quest of benefits hereafter." Govt. projects are worst offenders. Reduce present welfare for alleged, overstated, dubious future benefits.

~~I do not understand what he means.~~

5. Concerning value of having options, he has mixed 2-3 things together.

~~the~~ User charges do not get any revenue from non-user who values the option, true. ~~But~~ And taxes do -- esp. land taxes. For options are richer in some locations, and there we find land values. But:

a. Present as well as future options are involved. No need to confuse this by bringing stirring in gr. of present & future.

b. Non-users pay for options in land rents & values. Can collect them.

- ✓ c. Pvt. goods have same virtues as public ones in this respect. The non-buyer benefits from the option. Is why people locate in cities, & l.v. are so hi there. (The New Yorker only has 24 hrs. a day & 3 score & 10, like Missoula; but more options.)

6. Succeeding generations of users are not entirely non-competing.
e.g. broilers on wire, each generation takes time from the next.

7. Needs to distinguish SR & LR MC.

Deals mainly w. case of ex ante capacity when facility new.
Neglects how to optimize during time of congestion when facility old.

More genly, needs to define MC when for "public" type goods, not with holdable, where MC means Δ to congestion rather than Δ output input. D. has simple "capacity" notion.
Now, we have Δ of Q vs. D., both for $P = MC$, but one says $MC = 0$; other says $MC > AC$

✓ 8. I deplore final conclusion that value judgements must prevail.

That means Tower of Babel all over. World is full of fundamentalists.

- sylvan, horticultural, nationalistic, internationalistic, medical, highway, mineral conservation, wildlife, scenery, skiing - - -

Fu. of ecs. is to provide common tongue. Key word is exch. value; key measure is \$.

Has its faults, but ~~alternatives is chosen~~ usual critic of "almighty bucks" is a minority fundamentalist whose pet idea is unpopular.

Some of the fundamentalists are "hard" scientists.

(In BB, soft science must make hard decisions about soft programs in the hard sciences)

✓ 9. Mstr'g value of ^{public} non-salable goods is not impossible.

Challenge is to work on this area

a. By Δ rents in area served.

Or by Δ "profits" of land users, the approach of Green Books re Δ wh. supply (it is salable, but the c.s. is not.)

b. By insurance rates

? usual way of mstr'g. value of fire protection

Δ auto insurance costs users. part of cost of auto congestion.
and benefit of more user changes wd. be partly used by $-\Delta$ ins. rates.
c. By loan risk premia

✓ 10. Is no systematic bias vs. nonmeasurable benefits in govt. policy. E.g.

Religion

War

Exploration -- minerals, the moon.

Rural ~~life~~ way of life

Home-ownership

Suppression of marijuana

Rivers & harbors pork barrels; reclamation.

Outdoor recreation

✓ 11. Is no systematic bias putting burden of proof on planners ~~to~~ to show what failure. In water supply, forestry, schools, etc., the presumption is the other way. Betrays author's feelings. H-M wd. probly say exact opposite.

✓ 12. D. moderate extent to which priv. enterprise can engage in other than simple $P = AC$: p. discrim., peak load pricing, standby charges, insurance rates, phone rates, cover charges & min. service charges followed by lower regul. charges, etc.
Or if $MC \leq AC$, can be subsidized, like land grant c.r.s.

Similarly, he understates extent to which govt. can act monopolistically. Oil in Alberta; Gas in Holland; OPEC; U.S. F.S.; pricing of mun. water; etc.

Thus the "mkt." failure is often a failure of govt. in the mkt.

"In favor of enterprise".

13. Is some seeming inconsistency say's Del. estuary is small enough to be polluted, but large enough so boaters don't bother swimmers, or riparian peace. In all my personal reactions, I never saw or heard a motor boat that didn't shed external costs on me, & I find it hard to accept $MC = 0$.

14. Users in yr. 0 don't cover all capt. costs, but share them w. later users.

✓ 15. Those who benefit from having options get a benefit w/o imposing cost on producer. Thus, $MC = 0$. Thus they resemble off-peak users.

So why does D want option-beneficiaries to pay, & off-peak users not?

Each shd. pay via land taxes.

16. If insistence on msmt. understates benefits, also understates costs.

✓ 16. ~~§~~ p. 30, says max. $N?$ as a welfare norm understates benefits of projects bcs. omits C.S.

But C.S. is part of $N?$, results in movable. M inc.

To commercial landowners; & to non-commercial landowners are added imputed income, which is included in computing $N?$.
at least on urban housing.

Despite these misgivings, I support D's emphasis on the importance of case where $MC < AC$.

Putting a dollar sign on life

To guide itself—and Congress—on where its money should go, the Health, Education & Welfare Dept. is balancing new programs against the economic benefits of saving a life

How much is a human life worth in dollars and cents? Should the cost of saving it be weighed against the cost of losing it? These questions seem beyond the realm of serious thought. Nonetheless, officials of the Health, Education & Welfare Dept. have answered them by applying cost-effectiveness techniques to programs aimed at combating such diseases as cancer, and arthritis.

To do this, the HEW officials have had to swallow their own reluctance. Eighteen months ago they were saying it shouldn't—and couldn't—be done. It was all right, they said, for Defense Secretary Robert S. McNamara to rate military spending choices on the amount of fire power achieved for each dollar spent. But it was not right to evaluate life-saving programs on a similar basis. Too, a life represented so many intangibles that a price tag couldn't be placed on its value, they reasoned.

Change of heart. Then President Johnson ordered that McNamara-style arithmetic be applied to HEW planning. The idea was that HEW, when making up its budget, should have a guide to where its funds could best be used. HEW got to work. As a result, when its budget goes to Congress next week, the Budget Bureau will have HEW figures that show how much a program will cost, and how effective it will be in relation to other programs.

For example, the bureau will be able to show that, in addition to saving lives, every \$1 spent on screening women for cervical cancer will return \$9 in economic benefits. Similarly, \$17 will be returned from a dollar invested in blood screening more of the population for syphilis, \$42 from treating arthritis, \$1,351 from teaching the public to use seat belts while driving.

The formula. Such figures were arrived at by using a system of cost-benefit analysis adapted by Henry S. Rowen from Defense Dept. procedures. Rowen departed this month as assistant director of the Budget Bureau to become president of RAND Corp., Santa Monica, Calif.

He and William Gorham, HEW's assistant secretary for program coordination, are probably the leading advocates of applying "systems thinking" to social problems.

As health planners, Rowen and Gorham started with a specific threat to life. They then evaluated the state of technology useful in dealing with the threat, and the relative cost of different programs capable of applying the technology. A broad spectrum of problems was analyzed. The areas that seemed most worth attacking now were highway deaths, cancer, arthritis, syphilis, and tuberculosis.

For each of these areas, five-year, full-term, and alternative programs were planned, and then rated against each other and the economic benefits that could be expected. A program had to be economically justifiable: that is, its cost had to balance reasonably against the gain per life saved or extended. The gain was based on the amount of income the potential victims could be expected to earn in their working lifetimes.

Uncertain areas. The planners found wide differences in expected benefits, and considerable variation in the reliability of their estimates. They also found that, to a great extent, the higher the estimated benefit, the sparser were the facts on which the calculations were based. For example:

- The seat belt program, basically a public education safety campaign, comes out with a cost-benefit ratio of \$1 spent to \$1,351 saved. This is by far the highest ratio. But there's little information to suggest the campaign would induce "x" number of people to buckle up. Nor is there data to show that these people would have "y" number of accidents, and that "z" number of them would have been killed.

- The tuberculosis program has a lower cost-benefit ratio—\$1 spent to \$4.40 saved. But it is based on fairly extensive experience with successful treatment.

- The cervical-uterine cancer program also has a good scientific base.

Early "Pap smear" tests could locate the women who will die from this type of cancer in time for surgery, now nearly 100% effective.

Application. The problem planners face is to weigh such evidence, and devise programs to cover the largest number of people, at a price Congress is willing to pay. How cost-effectiveness serves as a guide to putting money where it will do the most good is illustrated by the case of cervical-uterine cancer vs. colon-rectum cancer.

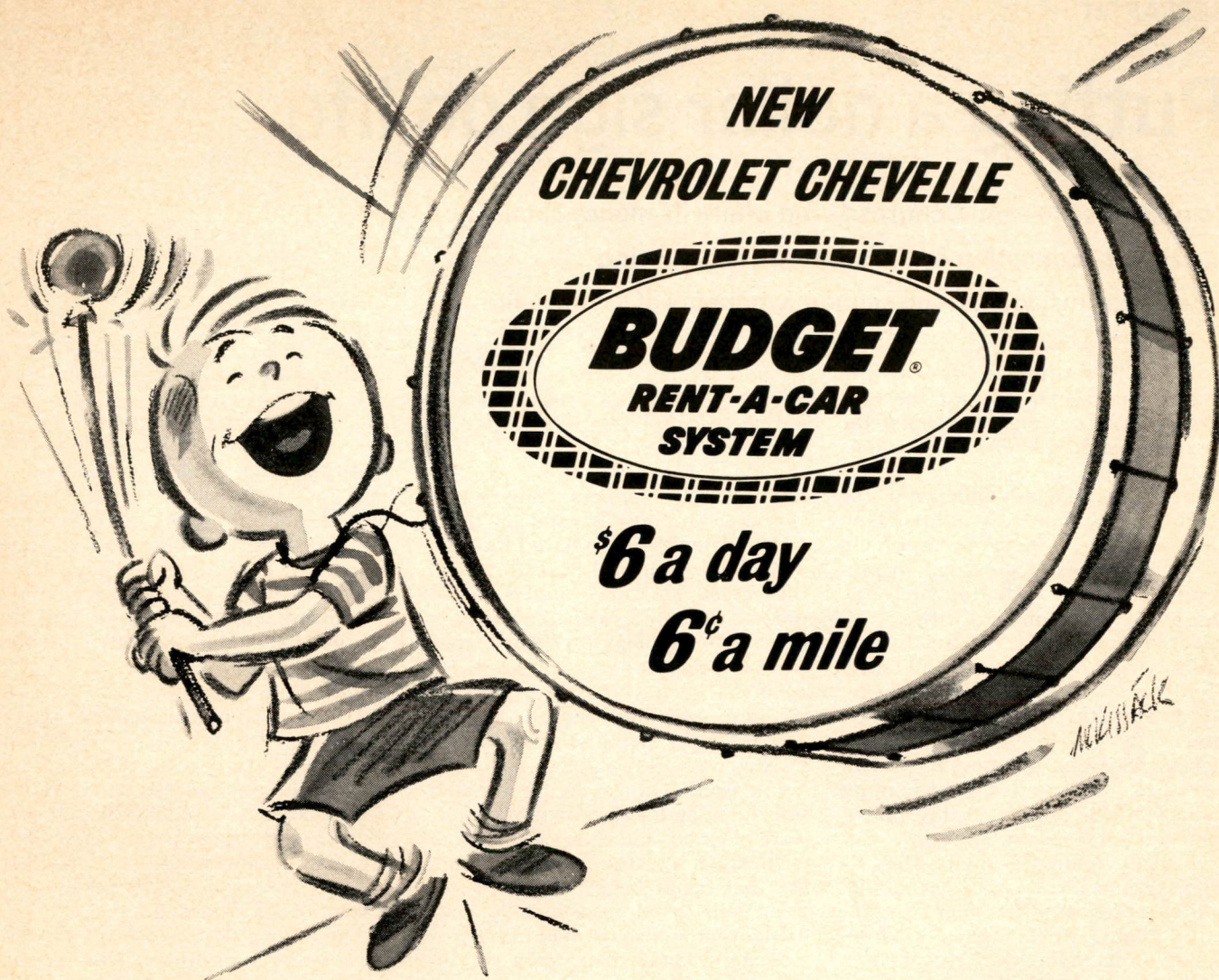
For cervical-uterine cancer, HEW came up with two plans. The most ambitious would cost \$155-million and would avert an estimated 44,084 deaths at a cost of \$3,520 per person over a five-year period. A scaled-down program would cost \$118.1-million and save 34,200 persons at a cost of \$3,470 each.

The figures don't stack up as well for colon-rectum cancer. This disease will kill 43,600 people this year. But there is no simple and quick screening test for this type of cancer, and surgery for it has had only limited success. It would therefore cost \$7.3-million over five years to save about 170 persons at a cost of \$42,941 per death averted.

With this in mind, HEW will place major emphasis on cervical cancer. Its program for colon-rectum cancer will concentrate on grants to find simple mass-screening methods.

Arthritis. Cost-benefit figures also point the way to an all-out attack on arthritis. This disabling, but not usually deadly, disease costs the U.S. a conservatively estimated \$3.6-billion a year, according to the National Institutes of Health and the Arthritis Foundation. Some 40-million Americans, or one in every five, have "radiologically identifiable" arthritis; 13-million are painfully aware of the disease. Another 10-million have crippling effects ranging from severe aching to total paralysis.

The NIH figures that an all-out program to attack arthritis would more than pay for its \$200 cost per patient. Dr. Allan Wolfe, arthritis consultant of NIH's National Center



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What's a life worth to the Budget Bureau?

[A five-year program for fiscal years 1968-72]

Highway accident campaign



	Cost (in millions of dollars)	Potential savings in lives	Cost per life	*Total savings (in mil- lions)	Savings per \$1 spent
Encourage the use of seat belts	\$ 2.0	22,930	\$ 87	\$2,728	\$1,351
Promote chest and shoulder belts . . .	.6	5,811	103	681	1,117
Educate accident-prone pedestrians .	1.1	1,650	666	153	144
Encourage motorcyclists to use helmets, eye shields	7.4	2,398	3,336	413	55
'Don't drink and drive' campaign . . .	28.5	5,340	5,824	613	21
Medical screening program for driver licensing	6.1	442	13,801	23	3

Disease campaigns



Cancer

Cervical-uterine cancer [screening program]	118.1	34,200	3,470	1,071	9
Breast cancer [screening program] .	22.4	2,396	7,663	101	4
Head and neck cancer [detection research]	7.8	268	29,100	9	1
Lung cancer [anti-smoking education program]..	47.0	7,000	6,400	268	5

Arthritis

Treatment centers, clinics, professional education	35.0	—	—	1,489	42
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Syphilis

Expand blood screening efforts	179.3	11,590	22,252	2,993	16
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Tuberculosis

Step up research and control	130.0	5,700	22,807	573	4
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*Direct and indirect savings through earning power of individuals.

Data: Health, Education & Welfare Dept.

for Chronic Disease Control, says that the knowledge, techniques, and drugs currently available can extend the working lives of rheumatoid arthritis by five years. Furthermore, victims of gout and osteoarthritis (diseases of the joints) could gain at least one year of productive working time if current methods of treatment were broadly applied.

Program. Treatment would aim at easing symptoms. Anti-inflammatory drugs to cut down the characteristic pain in the joints would be combined with exercise, preventive and rehabilitation therapy, and in some cases with surgery.

The arthritis program would also concentrate on two groups of people: patients, who spend more than \$435-million a year on nonprescription drugs (and another \$250-million on quack remedies); and doctors. Few practicing physicians can accurately diagnose arthritis or prescribe adequate treatment, says Wolfe.

Wolfe and the NIH have offered three alternative arthritis programs to the Budget Bureau:

- A pilot program with 9 medical school centers and 180 clinics, which would train 1,800 physicians over a 7-year period and serve 243,360 patients. Cost: \$47-million.

- A 13-year program with 1,000 clinics, which would train 1,000 physicians and serve 936,000 patients at a cost of \$138-million.

- A full-scale program with 45 medical school centers and 1,125 clinics, which would train 9,000 physicians over a 12-year period and serve 1,287,000. Cost: \$225-million.

Wolfe says: "Without the many side benefits, any of these programs would be self-supporting in no time in terms of taxes generated and reduced health costs. And the best part is that millions of Americans would find relief from suffering."

Life's price tag. Thus, HEW planners are putting a dollar sign on human life, and Congress will soon be doing the same. What's more, some lives are valued to be worth more than others.

Since calculations are based on expected earnings, men figure to be worth more than women. The young men are more valuable than the old. The life of a 45-year-old woman, the typical victim of cervical cancer, for example, is worth \$50,896. The benefit of saving a 25-year-old man, the typical victim of an auto accident, is \$128,698.

Making judgments on such factors seems harsh. But Gorham, among others, steadily insists that such choices are always implied in the inevitable clash between worthwhile aims and limited resources.

NASA's full calendar

Apollo spacecraft is set for first manned flight next month.

Then come three more flights with astronauts aboard and two tests of the Saturn V booster. After that, it's the moon

In a very few weeks, the first manned Apollo spacecraft will be launched into earth orbit that may last 14 days. It will be the first step in a year-long series of flights. In three of them, manned Apollo spacecraft will be boosted by Saturn IB rockets; another three will be tests of the 7.5-million-lb.-thrust Saturn V booster, which is eventually scheduled to carry a manned Apollo spacecraft to the moon—just possibly by the spring of 1968.

The first of these historic flights was originally set for Feb. 21 by the National Aeronautics & Space Administration. But the firing may be stepped up somewhat. Last week, prime contractor, North American Aviation, Inc., announced its check-out was running five days ahead of schedule.

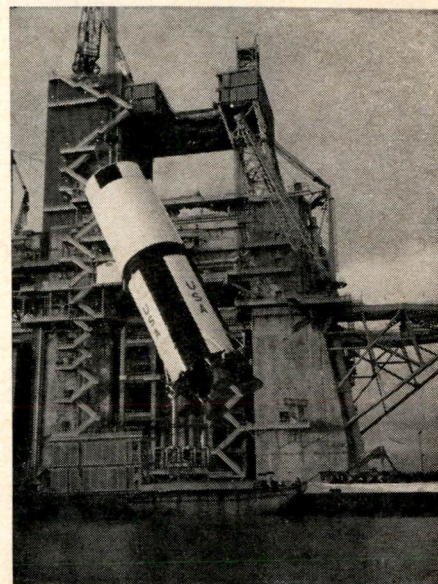
On this flight, the 1.6-million-lb. Saturn IB will carry an Apollo command module (where the crew rides) and a service module, a sort of space-roving supply room.

Earlier tests. The two modules have been undergoing ground tests at Cape Kennedy for five months; the IB rocket has had three flight tests, the first two suborbital and the other in earth orbit. In all three flights the booster performed beautifully.

Since last October, the booster has been sitting on Pad 34, waiting the much bigger test of its first lifting of a manned capsule. In earlier flights, it carried only instruments.

The excitement of the coming test has been heightened by the fact that the Apollo system that will be carried has just emerged from some harassing development woes. In October, the craft's environmental control system—the things that will keep the astronauts alive—failed during the testing of a water boiler. Several parts in an oxygen regulator and a water heating system had to be replaced, and other parts of the system had to be modified. Then, of course, testing had to start all over again.

Fuel cells. To add some extra worries, there's the very thin margin of safety provided to back up



Saturn V moon rocket booster is hoisted onto NASA's test firing stand.

the three fuel cells on which astronauts Virgil I. Grissom, Edward H. White II, and Roger Chaffee will depend almost entirely for power and water. Gemini spacecraft carried "packaged" battery power sufficient for 15 hours of emergency power; the Apollo has enough for only one hour, an exceedingly slim margin if the craft has to make an emergency reentry.

The key role of these fuel cells is that they produce electricity by chemical reaction to feed the Apollo's power system. As byproducts, the cells produce both heat—to maintain the cells at the proper temperature—and water, for the astronauts to drink.

Despite troubles and worries, NASA is bristling with confidence. It feels that progress has been amazing in a program involving thousands of contractors, \$23-billion in investment in the design and construction of two entirely new rockets and a three-section spacecraft. So great is the confidence that NASA has dropped a second 14-day flight of the Apollo S-IB combination.

Saturn V debut. Later this spring, when the Apollo flight is ended,

Comments on Davidson, in disorder.

1. HEW, cost-effectiveness programs for health ^{programs &} research. Cost-benefit anal.,
Henry S. Rowen, Wm. Gokhale.
cf. PPIB (?) "Program Budgeting" or whatever. New names for economics. ^{systems anal.} Opus. analysis.
McNammara-style arithmetic

People keep discovering *ex. &* giving it new names. Gives one renewed faith in intrinsic plausibility of the discipline. Amazing thing is it has taken so long.

1 $\frac{3}{4}$. Drug addiction raises CS most of all -- learning by doing.

1 $\frac{1}{2}$. If a stat. light were truly a public good, wd. only need one in whole world.

2. Selection of *i*

Usually too low.

Hence neglect of early results, overemphasis on deferred returns.

Opposite of myopia. Pie in the sky. "Benefits hereafter."

2 $\frac{1}{2}$. "Buck + own" not enough. It may be more like a user charge.

He needs to specify the taxes. From earlier work, he means on rent.)

3. Space as well as time. Tradition of neglecting ~~that~~ space, Davidson has followed faithfully.

4. In his depletion allowance study, ^{which I admired,} D. ~~emph.~~ cc. rent, a concept conspicuously absent here. It wd. be useful.

4 $\frac{1}{2}$. LR vs. SR and

5. Syntactic basis of natural & social sciences? Never occurred to me they were anything else. *Ex. to accept findings.* It's means of arbitrating, bedamning claims of competing fundamentalists. If *ex.* has a special integrating role, speaks in common tongue.

But Lewine Tower of Babel -- I shd. be plain

Is why ecsts. go to BB where hard decisions must be made. Thus anomaly -- the soft science has to make hard choices among soft programs in hard sciences. But now my prof. defensiveness is showing.

H&W health program priority anal. is ~~right~~ step in right direction

6. The public good usually depreciates as fun. of time; not use; & its use is effectively rationed by landownership. An area is served -- flood control, broadcasting.
(D's "nonrivalability".)

Or by insurance rates, as hi rates keep cars off streets

Value of some goods also mrd. by drop in ins. rates -- fire protection.

Or by drop of interest rates on mortgage loans

Or by Δ rents, profits, l.v.

7. Not so different from ~~public~~ "priv." goods.

Advertisg is used, results hard to use.

Cost of collectg is hi % of producing some goods, better to make them public.

8. Pay by land charges

9. Street lamps not public goods. Space limited, & mostly priv.

10. Public goods are limitg case of decig cost service. But pure case is a nonsense. General case is $MC < AC$. That is what ecsts. shd. be analyzing.

11. Unattainable Utopia is not a relevant policy standard.
12. Ability to impute benefits is scarce, costs something.
It's silly to say situation would be better if ~~that~~ ability were not scarce. Truism.
Menger is not answer to all spillovers. Someone in the merged org. must still impute value. So with having bureaucrats decide, as D. wants.
13. Crocker claims there can be a net. for public goods
14. To call a situation hopeless is like calling it ideal.
15. Cons. sovereignty & distrib. of pp., limits D's gen. that costs more effc. by value.
He might mention cost's effc. $\neq$ physicists.
16. D: systematic bias, ^{by govt.} vs. less quantifiable benefits?
Dubious. Religion, war, exploration, ^{naval ship.} moon shots, suppression of nuisances, rivers & harbors, reclamation. . . . pattern of bias is not so simple.
Muniv. p.w. get low i.r., too; and home ownership.
17. D. lumps full cost pricing & priv. cost, & v.v. — an error.
18. D. credits originality to Galbraith for refurbishing old ideas.

19. Measurement of benefits always includes value judgements, is major conclusion.

20. Takes him a long time to get to public goods, his subject.

21. Del. estuary problem is lack of tenure. There is comp. among owners of shore. Probably are Δg costs, of crowding.

Indivis. is in enhancing wth. quality. But you can do a part, like filter wth. brant.

Answer may be, est. is too big, rel. to recr. demand, to clean up entire. But why not do part?

22. p. 18, key allegation, wrong, unsupported. $MC = 0$

(or $MC < AC$) means "govt. must accept an allocative role."

P discrim. is an alternative; or lump subsidy, which isn't entirely "allocative."

23. D. makes much of the option on future being unpaid for by future user, by user charges.

But as future user he pays. And MC then are higher by virtue of scarcity, due to sellers not supplying unless int. is covered.

Future & present users are primarily complementary. It is true. But present users do not bear all costs. E.g., in yr. 0, users don't cover all capl. costs.

p. 20 is contradictory.

24. But there is an "option demand", e.g. for fire protn. or suppl. irrig.

wtr, or safety factors in wtr. supply, that is immediate -- here he's lumped 2 separate things, (a 2d time).

25. Abruptly concludes user charge = 0 is best due to externalities.
No proof.

26. p. 30, equates maxig N ? & maxig product of $P \times Q$, alleges it understates gain by omitting C.S. But C.S. is also money income, unless implicit, -- e.g. under irr. project, Δ rents.
and on p. 31 he says he is discussing marketable goods.

27. pp. 31 - 32. No concept of spatial limit on "public" goods.

28. If we add Δ curves vertically, do we have to change cost curves?

29. Emphasizes difficulty of including subjective feelings in objective measurement. Fails to mention L.V. Elusive leprechauns are captured.

30. p. 36, has cleaner wtr. give zero benefit to swimmers if is no more swimming. But how about more fun for existing swimmers? He forgets his own C.S. idea.

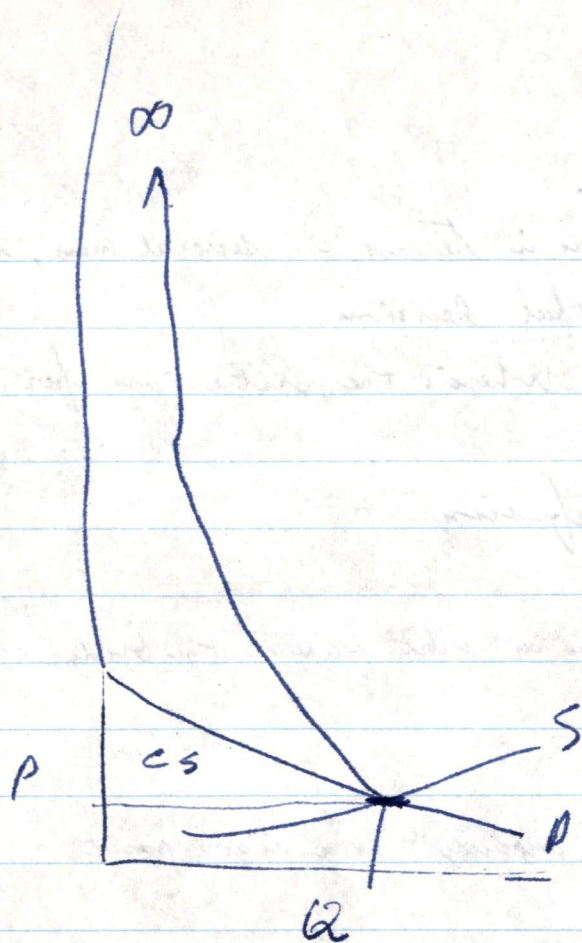
31. p. 38 contradiction in terms -- several men, subjectively weigh alternatives, make thoughtful decisions.

If it's subjective, where's the criterion for decision?

32. p. 39 ends in confusion.

33. He shouldn't describe as "inbt. failure" the bridge case -- soluble by peak load pricing.

34. He shouldn't speak of "capacity" as a rigid point.



MEMORANDUM

To: Mason Gaffney
From: Tom Crocker
Re: The Davidson Paper

January 17, 1967

(I) Positive Features of the Paper

First paragraph - p. 23

This is the first time I've seen the "learning by doing" concept applied to a market failure argument--rather an interesting application.

Bator article

His synthesis of Bator's "The Anatomy of Market Failure," though by no means unique, is rather good.

Last paragraph - p. 33

Unwittingly, I think, by his use of the logically meaningless phrase ". . . the greatest good for the greatest number," he has pointed out the inherent difficulties for economic analysis of the pure public goods case. And, of course, referring back to p. 31, the Garden of Eden and similar Utopias are probably the only pure public goods which ever have existed.

(II) Specific Criticisms of Davidson's Paper Which Might Be Useful in Writing Your Own Paper

First paragraph - p. 2

In order to enable the economics profession to recover some of the lustre rubbed off when Davidson insisted on groveling before the physicists' ability to measure ergs, it might be worthwhile to mention von Heisenberg's Principle. In its simplest form, the principle simply means that one changes that which he is measuring by the very act of measurement. The principle was formulated in the context of the physical sciences. One might have further fun jumping on the physical and biological sciences by pointing out their resemblance to the institutionalist tradition in economics, i.e., empiricism run wild, where there is little if any attempt to build up what we used to call a theory but which some today prefer to call a model.

Carryover paragraph - p. 5

The first assumption for revealed preference theory should be stated as follows: the individual knows what is best for himself better than anyone else does; or, I know what I want better than Manny does. This does not necessarily mean I know what is best for me, but it does mean--if you accept the premise--that it is not necessary to argue endlessly about unidimensional welfare measures supposedly underlying prices. All we need to know is that the individual does demand different quantities of different commodities sold at similar prices; or similar quantities of different commodities sold at different prices.

General

The relevant question as Davidson at some points seems to imply is not whether one can relate individual marginal evaluations to individual marginal charges, but rather whether or not it is even worthwhile to attempt to do so, and, if worthwhile, the extent to which it is worthwhile to carry the attempt. However, his understanding of this point seems more than a bit confused.

To begin, people who insist upon employing a technically and economically unattainable and therefore irrelevant Utopia as their standard for suggesting real policy applications make me a bit impatient. Certainly, one of the costs of supplying some (not all) public goods flows from the difficulty of imputing benefits. This cost is reflected in the risk that too much or too little will be supplied. Therefore, just as Davidson implies, optimal output in the absence of measurement problems is superior to output which must be adjusted for their presence. But to pound away at this point for thirty-odd pages--with some rather puzzling digressions having no direct relevance to what is supposedly the basic theme being intertwined--amounts to nothing more than reiterating the obvious and hardly new truism that the situation would be better if that which is scarce (ability to impute benefits) was not scarce. Davidson's error in espousing that the bureaucrat be the sole allocator of public goods is similar to the mistake made by those who scream "merge" every time they see or imagine they see a technological spillover. True the merger may enable the "political scientist" and some economists to draw much neater and better rationalized organization charts. Nevertheless, in spite of the supposedly eventful merger, somebody in the merged system must still make decisions about the efficient (and equitable) magnitude and form of the activity in question.

To approach the concerns of the preceding rantings from a slightly different tack, the usual optimality conditions equating MRS's and MRT's are applicable only for produced goods. If information

about benefit imputation is not and/or cannot be produced in positive quantities (this information is, after all, a scarce good), then some inequalities between the MRS's and MRT's for the goods produced in positive quantities might well be required for fulfillment of the optimal conditions. The substitution of bureaucratic judgments about benefit imputation does not necessarily follow from the market's inability to impute benefits accurately. In other words, before one can conclude that decisions about the benefits caused by the provision of public goods are best handled by non-market criteria, two questions must simultaneously be answered in the affirmative: (1) the degree of knowledge acquired in using non-market criteria is greater than with market criteria; and (2) the factors of production employed in establishing and maintaining the non-market criteria do not offer greater alternative returns when used for other purposes, including as one of these other purposes their non-use. Davidson hasn't shown that either of these conditions is fulfilled, for he apparently assumes the use of the non-market criteria to be costless, i.e., nobody else wants to have a damned thing to do with them, or there are so many of them around that they are free for the taking.

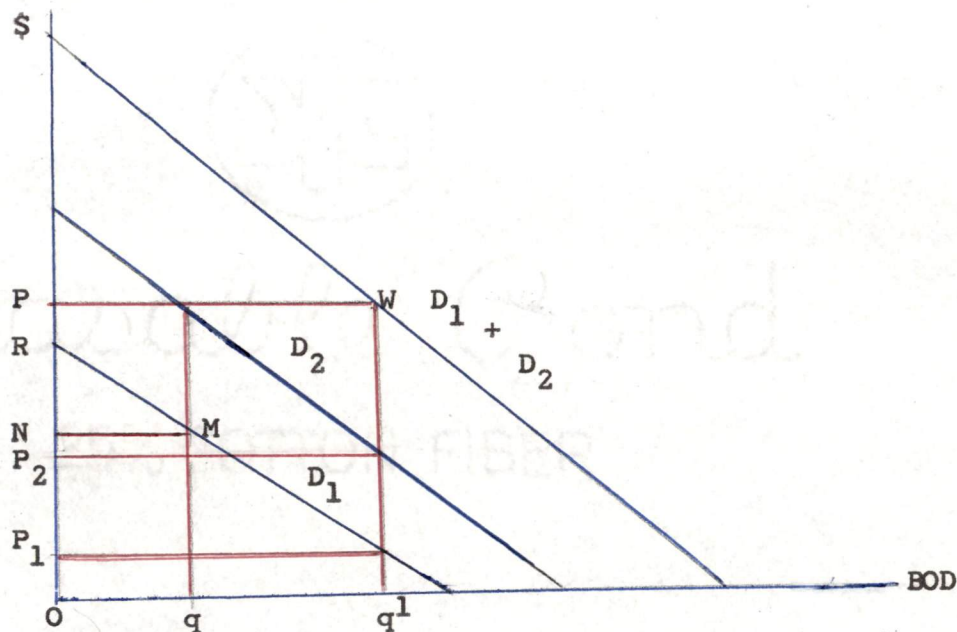
(III.) Some Points Which You Might Find Worth Considering

- (1) Taxation for the provision of public goods
Assume that some omnipotent public authority decides that everybody in this department is to be presented with x units of a "public good" this year. Further assume, however, that each department member will be taxed a fixed proportion of his next year's income in order to cover the cost of providing that good which the authority has so generously deemed we deserve. If the amount of "utility" I obtain from having the good available (parking, for example) is substantially less than the amount you obtain, and less than the tax, I, in accordance with the usual analysis, would act so as to substitute nontaxable income (leisure, perhaps) for taxable income, i.e., I would act so as to reduce my tax base. But, in so doing I am increasing the amount of tax which you and everybody else must pay in order to cover the costs of providing the public good. At this point one can get into all sorts of wonderful shenanigans, the final conclusions of which are by no means always determinant. For example, you, Leon, Chetty, and Art might find it worthwhile to try to convince Richard, Manny, Pan, and me to cease reducing our tax base. In order to do this you would probably attempt to raise the price of leisure either by increasing the income penalties

for not publishing and/or by offering us some sum of money on the side to not reduce our tax base. Or, again, there are conditions under which you might find it worthwhile to reduce your tax base in response to my reducing my tax base. In this case, the reduction in the aggregate tax base would be cumulative. The point of all this is that, contrary to Mr. Davidson, a market for public goods can be formed if the amount provided is not optimal for each and every individual. Some more examples follow.

(2) Davidson's Delaware estuary example

Assume two individuals who wish to clean up the estuary in order to have it available for recreational uses. Let purification be measured in units of BOD done away with and assume costs to be precisely assignable to individual BOD units. Let the two individual demand functions for purification be D_1 and D_2 respectively. If the present capital costs are P , individual (2) will purchase q units and individual (1) will purchase zero units.



But even though (1) doesn't pay for anything, he will receive benefits equal to the dollar equivalent of the area $OqMR$, for which he would have been willing to pay a unit price of NM .

There is no reason to expect q to be stable since it is worthwhile for (1) to "bribe" (2) up to a dollar equivalent of N . In fact, (1) will continue to bribe (2) until such time as (2) is no longer willing to accept a subsidy for purchases below (1)'s demand price for these quantities, i.e., until there are no longer any gains from trade. Similarly, (2) will continue to accept the subsidy and supply additional BOD reductions until a point q^1 is reached such that (2)'s demand plus (1)'s subsidy to him become equal to P . This equilibrium where mutual gains from trade cease occurs at W on $D_1 + D_2$, where the function is the vertically summed joint demand function for (1) and (2). At W , (2) is paying a unit price of P_2 toward the purchase of q^1 , while (1) is paying a unit price of P_1 toward the purchase of this same quantity.

You can obtain additional interesting (?) results by playing around with the case where (1) does not try directly to bribe (2), but instead simply sets his own expenditures after he observes what (2) has done. This case can then be broken down into subcases in which (2) is either too dumb or is intelligent enough to recognize what (1) is doing.

It is possible to go on at great length manipulating reciprocal relations under various assumptions about the reaction paths which the contending or complementary parties will follow. However, two points should be emphasized. First, the assertion that there is no set of market prices which will accurately reflect the benefits accruing to the provision of a public good implicitly assumes either that the good in question exists in perfect economic isolation, or that the cost of establishing and maintaining any milieu in which trading can take place is for all possible degrees of each milieu greater than the benefits (in terms of improved allocation) which could accrue. Second, if one insists that a measure of benefits be obtained, it is by no means always necessary to set up a fancy and sophisticated system of charges, licenses, compensation criteria, etc. Oftentimes the introduction of a simple rule or the threat of such introduction can make it worthwhile for the interested parties to establish a market where none before existed. Thus the question one must really ask is whether a given rule or system causes as perfect a market to be established and maintained as does some alternative rule or system, including as an element in one's net benefit or cost calculations the cost of attaining and maintaining the structure flowing from the rule or system. The question as to whether benefits can be measured under the highly restricted (and somewhat inconsistent) conditions assumed by Davidson is utterly empty.

Miscellaneous

The introduction of a rule resulting in the formation of a market basically means, of course, that some sort of constraint is being imposed upon the actions of the interested parties: the parties act on the basis of constrained maximization. But Davidson's thesis in which those who would supposedly benefit are to be provided with

no opportunity to make their wants known means that
we have only constraints and no maximization.

There is, after all, such a phenomenon as an optimally
imperfect decision.

To call a situation hopeless might be equivalent
to calling it ideal.

Tom - Please return

UNIVERSITY OF COLORADO

BOULDER, COLORADO 80304

DEPARTMENT OF ECONOMICS

December 5, 1966

Professor Mason Gaffney, Chairman
Department of Economics
University of Wisconsin
Milwaukee, Wisconsin 53201

Dear Mason:

The University of Colorado and the Environmental Science Services Administration, Department of Commerce, are planning to hold an interdisciplinary Conference on the Social Sciences and the Quality of the Environment in Boulder, January 31, February 1 and 2, 1967; and I am writing to invite you to attend the Conference.

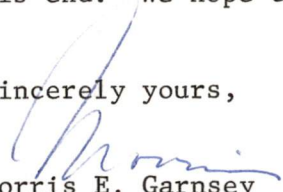
This will be a small working conference of 2½ days' duration. There will be eight papers from four or five of the social sciences and two discussants for each paper. The papers and proceedings will be published for general distribution. A tentative agenda of the Conference is enclosed. All of the speakers listed have accepted.

We are fortunate that Professor Paul Davidson of Rutgers University will present a paper, "The Valuation of Public Goods." We wish to invite you to discuss Dr. Davidson's paper and, of course, to participate in the entire Conference.

We are able to offer an honorarium of \$300 plus per diem and travel.

We are looking forward to a very stimulating experience and we feel that you can contribute substantially to this end. We hope that you can accept our invitation.

Sincerely yours,


Morris E. Garnsey
Professor of Economics

MEG:chs
enc.



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COLLEGE OF ARTS AND SCIENCES

NEW BRUNSWICK, NEW JERSEY 08903

January 6, 1967

Professor Mason Gaffney, Chairman
Department of Economics
University of Wisconsin
Milwaukee, Wisconsin 53201

Dear Professor Gaffney:

Enclosed please find a draft of the paper which I will be presenting at the Boulder meeting at the end of this month. Professor Garnsey has indicated that you will be a discussant on this paper.

✓ Although there may be some minor changes I am sending you this draft so that you may prepare your discussion from it. I promise to try not to vary too much from this enclosure.

Looking forward to meeting you and a pleasant discussion, I remain

Sincerely yours, .

Paul Davidson
Professor of Economics

PD:grd

Enclosure