

NOTES
ADVERTISING AND NATIONAL INCOME:
A FABLE

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Part I

Happyland is a small but underpopulated independent island on which labor is so homogeneous and competition so perfect that its 100 workers all have the same earnings, \$10,000 a year. Hence no one would question that that is the value of a year's work by any worker on the island. Happyland's citizens are all followers of Prince Kropotkin so the island has no government, taxes, or subsidies—and no crime, either. A Big Power, however, has an interest in seeing that tranquillity continues to prevail in Happyland, which has a strategic location. To ensure that no trouble arises it pours in as a gift so much capital that capital has a zero marginal product and no earnings. Of course, this amount, though large in Happyland, is insignificant in the budget of the Big Power. Land of every type is so abundant in Happyland that its marginal product and earnings are also zero.

One year the Big Power, wishing to know more about Happyland, sent two national accountants, Nat and Ink, to compute its national income and product. Nat and Ink quickly established that in Happyland there were only labor earnings. They also found that 95 of the 100 workers were engaged in a variety of productive activities of no special interest to us, and that the prices of their products were exactly equal to their labor costs, totaling \$950,000. Four of the remaining five workers made and sold soap. The 100th worker, a handsome young man with a strong and beautiful voice, stood in the middle of the island's only village several hours each day and sang to the islanders. (He was also the composer of all new songs.) The islanders—workers and nonworkers alike—loved to hear him sing and would gladly have paid to do so, but this was unnecessary. For twice each hour he sang songs, or delivered short monologues, extolling the virtues of soap. This was so persuasive to his listeners that the four soapmakers, whose own earnings totaled \$40,000, were able to sell their soap for \$50,000 and pay the singer the \$10,000 difference.

Nat and Ink had no trouble in placing national income at factor cost at \$1 million. There were 100 workers at \$10,000. No worker received any income in

Editor's Note—At the time these notes were written as internal papers at the Bureau of Economic Analysis, U.S. Department of Commerce, Mr. Denison, Associate Director for National Economic Accounts, and Mr. Cremeans, then Associate Director for National Analysis and Projections, were "next door neighbors" in the Tower Building in Washington. Mrs. Peskin is Chief of the Measures of Economic Well-being Branch of the Environmental and Nonmarket Economics Division. Mr. Cremeans has since moved to the Bureau of Industrial Economics where he is Director of the Office of Industry Economic Research and Analysis. Mr. Denison's note was written in response to Cremeans' "Consumer Services Provided by Business through Advertising-Supported Media in the United States" (*RIW*, June 1980). The opinions and conclusions expressed in the notes are not necessarily those of the Department of Commerce.

kind as remuneration for his work so there could be no imputation. Hence \$1 million had to be right. A local resident with whom they were drinking beer one evening did suggest that perhaps the national product at market prices was understated if they counted only cash transactions, since the value of the songs did not seem to be included. But Nat and Ink were not fooled. They could find no way in which market price differed from factor cost and concluded that the national product at market prices was also \$1 million. The two experts disagreed on its composition, however. Nat said there was \$50,000 worth of soap. Since it didn't affect any table, he didn't care whether the songs were described as excluded from the national product or as included with a zero price. Ink, however, said there were \$40,000 worth of soap and \$10,000 worth of songs. Nat and Ink decided to leave this disagreement unresolved since it didn't affect national income and product.

While the investigators were still on the island, there was a sudden storm. The singer was killed by a bolt of lightning. Thereafter, the four soap workers made and sold as much soap as ever, but to do so had to lower the price by one-fifth, from \$50,000 to \$40,000. Their earnings were unaffected since the singer no longer had to be paid. With only 99 workers now earning \$10,000 each, national income fell from \$1 million to \$990,000. With outlays for soap down from \$50,000 to \$40,000, national product fell from \$1 million to \$990,000. So far Nat and Ink had no problem. But they also needed an estimate of the change in real product resulting from the storm.

By Nat's computation, real product remained \$1 million. Extrapolation of \$50,000 of soap by the unchanged quantity of soap left the real value of soap at \$50,000, while songs did not enter his calculation at all. All that had happened, according to his computation, was that the price of soap declined after the storm. With employment now only 99, income and product per worker rose. Ink's computation, however, showed that it was only \$40,000 of soap that had remained unchanged in real terms, that the value of songs had fallen from \$10,000 to zero, and total real product had fallen from \$1 million to \$990,000. There had been no change in prices or in income and product per worker, by his computation.

Observing the sadness of the villagers at the loss of their singer, Nat quickly agreed with Ink that the loss of the songs had reduced welfare, offsetting the slight gain in consumption per worker of all other products that the singer's death had made possible. Being unable to think of any use for national income and product that would be better served by aggregate measures that did not decline, the two investigators now agreed that Ink had been correct in saying that there had been \$40,000 of soap and \$10,000 of songs. Agreement was now complete.

They were still not sure, however, about the best way to show a table on personal consumption expenditures. Should they show the expenditure for soap as \$50,000 in the first period, with an explanation or footnote that this value also included entertainment paid for by soap advertising? Or should they actually show \$40,000 as soap and \$10,000 as entertainment? Considering that the islanders thought they had spent \$50,000 for soap, and that in a more complex society the second alternative would be difficult, they were inclined to favor the first alternative.

After returning to the Big Power, Nat and Ink read an article by an American economist, Cremeans, who wanted to raise the national product when entertainment was provided by advertising. They continued to believe they were right in measuring the current dollar national income and product without adding any imputation. However, they were impressed by the American's arguments that some of the media time paid for by advertising is used for commercials that watchers and listeners not only do not value but may even actively dislike. This made Nat and Ink wonder whether \$40,000–10,000 had been exactly the proper division between soap and songs and, if not, how much of the \$10,000 allocated to songs was really for soap. When last heard from they had not resolved this issue.

Edward F. Denison

Part II

Later, Nat and Ink returned to their offices in the Brown Tower.¹ They were glad to be back because they had missed the thick fudge available on every floor. But, being out of practice after their sojourn in Happyland, they overindulged and quite unexpectedly found themselves before a large, bearded man (LBM) in a radiant white robe. Behind him was a very large pair of pearly gates.

"Names?" said LBM.

"Nat and Ink," said Nat and Ink.

"Occupations?" said LBM.

"National Income Accountants," said Nat and Ink.

"Ah," said LBM, and to an assistant, "The record, please."

After a moment's perusal of a very large, heavily bound book, LBM snapped his fingers and two large, red humanoids rushed in from the side clouds, grabbed Nat and Ink and dragged them toward the "down" elevator.

"Wait," cried Nat. "At the Brown Tower we got some hot memos, but never this."

"It's not fair," said Ink, a tear forming in his eye. "We did our best in Happyland."

"Oh, you think it's for Happyland?" said LBM. "It isn't. No, it's for those abominable articles you wrote. Your prose would put a saint to sleep. You use the same words over and over again; never a superlative or an exaggeration; never a 'which' for a 'that' to relieve the monotony; never an extra word on which to rest the mind; just an endless sea of precision oatmeal—you two richly deserve your fate. Take them away!"

The red humanoids sprang into renewed activity. Nat, desperate to prolong the conversation, called over his shoulder, "You liked our work in Happyland?"

"No, I didn't. But I don't fault you for it. You couldn't have known about the HEA rules."

"HEA rules?"

"Yes, the Heavenly Economic Accounting rules."

¹Made familiar by the now famous headline of July 18, 1980, "THE NEWS THIS HOUR IS DOUR FROM BIG POWER'S BROWN TOWER."

“What are they?” said Ink.

“Please, you’ve got to tell us before we . . .”, said Nat, breaking into sobs.

“Oh, very well,” said LBM. “It’ll give you something to think about through eternity.”

“Oh thank you, thank you!” said Nat and Ink.

“First let’s dispose of this matter of Happyland national income. You were absolutely right, the pre-storm Happyland national income was precisely \$1 million because that was the sum of the money transactions. The National Economic Accounting (NEA) rules limit income to market transactions. Of course, there are those famous four imputations; they were never intended to include nonmarket economic activity, but only to avoid some messy situations. We use the NEA rules here too. Good old GNP is still best for the analysis of fiscal policy and the like. Your initial judgment was correct—under the NEA rules—but then you began to drift.

“What really startled me was that you considered tinkering with the results when you observed that the post-storm Happylanders had diminished welfare even though real (NEA) income was unchanged. A quick check of the records showed that both of you stayed after school to write ‘GNP is not intended to measure welfare’ on the board 500 times back in Brown Tower kindergarten. Why should you have expected that it would measure welfare in Happyland?

“Before the storm, consumers paid \$50 thousand for soap; they thought they were buying soap and they were. Each consumer regulated his purchases so that the ratio of this marginal utility of soap and its price equaled his marginal utility of money. The marginal utility of songs didn’t enter the calculation because each consumer knew that his soap purchases would neither increase nor diminish his consumption of songs. After the storm, the consumers (individually) regulated their purchases in the same way, but their marginal utilities of soap must have decreased—the demand curve shifted to the left. But again, your post-storm calculations of the real national income of Happyland were correct; under the NEA rules, real income was unchanged.

“I don’t understand what you had in mind when you speculated about partitioning the soap purchases into soap and songs. Do you really think that national accountants should decide that consumers bought songs when they thought they were buying soap? If you start this sort of thing, where will you stop?

“Consider the original puzzle. What were the transactions between the singer, the soapmakers, and the islanders? The singer was paid \$10 thousand by the soapmakers to: a) gather an audience, and b) extoll the virtues of soap—that is, to shift the demand curve for soap to the right. The islanders paid the soapmakers \$50 thousand for soap. The singer sang to the islanders and the islanders enjoyed, but no money changed hands.

“It’s the third transaction that’s the crux of the puzzle. The pre-storm Happylanders looked like they were consuming songs; their activity passes every reasonable test for the act of consumption but one—they didn’t pay money for it. Had you crept about the island at night and discovered that the islanders were secretly paying the singer, the problem would have disappeared. That’s why it’s so tempting to decide that part of the payment for soap is really a secret payment for songs, but it just won’t wash. Some very dirty islanders who never buy soap are the

most devoted consumers of songs, while some of the cleanest are completely tone-deaf.

“The individual consumer doesn’t buy soap to insure the supply of songs; his purchases are too small to have an effect and even so he would be better advised to put his contribution directly in the hands of the singer. As a result of advertising, consumers buy more soap (or are willing to pay more for soap) because their tastes and preferences have been changed. Most consumers know that the soapmakers are using the singer to try to change their preferences, and they accept the risk. In fact, that’s the essence of the nonmarket transaction. The islanders ‘sell’ the opportunity to modify their tastes and preferences and ‘buy’ songs with the proceeds; the transaction is entirely self-contained and self-balancing. The opportunity must be worth \$10 thousand to the soapmakers because that’s what they bought.² For their part, the consumers were at least tacitly satisfied with the exchange because they could have formed an association (or established a tax system) to pay the singer. In fact, if any individual is unhappy with the exchange, he can decline to participate (most of the time) by staying out of earshot of the singer. So, you see, the puzzle is a puzzle only because the NEA rules exclude nonmarket exchanges.”

“So Happyland’s pre-storm national income was really \$1,010 thousand,” said Nat.

“And the post-storm constant dollar national income \$1,000 thousand reflecting the loss of the songs,” said Ink.

“You still don’t understand,” said LBM. “Under the NEA rules it was \$1,000 thousand in both cases; you can’t expect changes in nonmarket activity to be reflected in a system that deliberately excludes nonmarket transactions. Under the HEA rules, it’s much higher and it fell after the storm; the value of the songs is included in the pre-storm income at \$10 thousand,³ but so are a lot of other things: environmental and housewives’ services, do-it-yourself repairs, leisure time, and so on. It makes no sense for you to introduce one or two nonmarket activities into the accounts when there are so many that you still don’t understand.

“Someday a version of the HEA rules may be available on earth, but that won’t mean that the NEA rules or GNP will be rejected. Even Cremeans understood that. The HEA rules build on the NEA rules, but they don’t replace them. As I told you earlier, we still use GNP for the analysis of the market economy and for the development of Heavenly Fiscal Policy. The HIPA’s are for, shall we say, ‘higher’ analysis.”

“That’s all very well, but how do you measure the value of all these nonmarket activities?” asked Nat.

“Ah yes, that is a problem, but you’ll have plenty of time to think about it. Take them away!”

John E. Cremeans

²The Happyland soapmakers were very unusual in that they apparently had an undifferentiated product and their advertising brought them no net return. Most advertisers become advertisers in hopes of a net return and attempt to distinguish their product from their competitors as a part of their strategy.

³Actually, \$10 thousand less the value of the singer’s time devoted to commercials and less any costs the listeners may incur in obtaining access to the songs.

Part III

Still later, the LBM, taking time from that dreadful task of developing heavenly performance plans, was listening to the new singer in Happyland.

“How wonderful!” he thought aloud. “I would give a million dollars to listen to such singing every day. The new singer is certainly better than the last one, who sang all those loud rock and roll songs; he wasn’t worth a plug nickel.”

He stood up with a start. “Woe is me! I have erred. Truly, there is a value to the songs, but it need not be \$10,000. The \$10,000 paid to the singer measures only the value of the singing to the advertiser, not to the listener. In truth, the value of the songs to listeners is no easier to measure than values of all those other messy nonmarket activities.”

The LBM was disconsolate. What had he done to Nat and Ink? Certainly, they had been in error but then so had he. At the urging of a small, cherubic woman (SCW), the LBM recalled Nat and Ink from their unhappy fate. Henceforward their punishment would be to monitor the heavenly performance plans.

The LBM, SCW, Nat, and Ink spent many hours discussing nonmarket activities over the years and did agree that songs, even if free to the listener, did have a value. But they never did agree on what that value was. . . .

Janice Peskin