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# CORPORATE RISK EVALUATION IN THE CONTEXT OF AUSTRIAN BUSINESS CYCLE THEORY

JOANNA KRUK\*

JEL CLASSIFICATION: B53, E22, E40, E52, G31, G32

**ABSTRACT:** This paper expands Fuller's (2013) analysis of the net present value and interest rate changes in the context of the Austrian Business Cycle Theory. During the boom phase of the business cycle, the economy shifts to a more risky position as the result of entrepreneurs' profit targeting. To quantify this risk the duration, defined as the number of periods that elapse before the average present value dollar is received from a stream of cash flows, can be used. The new risk-adjusted net present value is created after applying the duration to capital asset pricing model determining the discount rate that should be used to calculate the present value of the project.

## 1. INTRODUCTION

The Austrian business cycle theory (ABCT) gained the interest and endorsement of non-Austrians as a valid theory shortly after the outbreak of the 2007/08 crisis. Then, major focus was placed on macrolevel aggregates such as the volume of loans, the threat of large scale bankruptcy or the supply of money. Little attention was paid to the analysis of corporate finance and the causes of

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companies' erroneous decisions about initiating and carrying out unprofitable undertakings. One direct cause of the collapse was identified as cheap credit, which engenders a reallocation of resources between stages of production. That is inconsistent with the intertemporal preferences of consumers. In particular, lowering the interest rate below its natural level causes production to become more future-oriented. Artificially low interest rates are not only the cause of incurring new debts by companies, but are also the reason why less efficient companies enter the market. Due to the poor quality of their projects, these less efficient companies are more likely to mobilize necessary funds if funds are less limited, which is the result of expansionary monetary policy. Correspondingly, there are numerous entrepreneurs that will receive investment funds only when credit is "easy." (Engelhardt, 2013) Moreover, erroneous decisions to engage more resources to projects which cannot be successfully completed are implemented, making the situation worse than it otherwise would be.

The aim of this paper is to analyze corporate finance from an ABCT perspective with a focus on the excessive risk-taking by companies. While the main literature about the business cycle focuses on the effects of certain policies on the aggregate and general shift of the economy to more risky positions, the motivation of financial decisions on a micro-level can shed new light on the foundations of the emergence of the business cycle. The vast difference between the profitability of an investment project relative to the interest rate change was previously discussed by Fuller (2013) using the net present value and the marginal efficiency of capital to show how interest rates affect the intertemporal allocation of capital and shift the resources to more roundabout projects. Enriching the analysis in risk assessment could lead to a further conclusion regarding the subject. One of the frequently used risk measures is duration, used in capital budgeting and precisely described by Blocher and Clyde (1979) and Johnson (2005).

In this paper, we plan to analyze previous work on the cycle effects on the microenvironment from the Austrian perspective, along with financial literature research on risk assessment, in order to try to capture the impact of interest rates changes based on financial decisions of firms with on numeric examples.

## 2. THE CORPORATE APPROACH TO THE AUSTRIAN BUSINESS CYCLE THEORY

The Austrian business cycle theory was developed in the first half of the 20<sup>th</sup> century, mostly by Ludwig von Mises and Friedrich von Hayek. The main focus of the theory was placed on the inter-temporal coordination and allocation of resources. In the market economy, the role of price signals was emphasized, as it is the major indicator of entrepreneurs' success in fulfilling their clients' demands. Special attention was paid to interest rates since the core of the ABCT is how artificially low-interest rates, which are falling below their natural level, influence the economic activity of agents.

As formulated by Rothbard (1978), the unhampered market interest rate is determined only by the "time-preferences" of the agents. People choose money right now over a promise made in the present to receive the same amount of money in the future, which means that their time preference is positive. Time preference also indicates the distribution of people's income between savings and consumption. When the interest rate falls as the result of government intervention, rather than as a change in people's preferences, an artificial boom starts. Agents are deceived into thinking that there is a greater amount of savings available for their investment projects, so they begin to engage more capital, particularly in lengthy and time-consuming undertakings, which previously were unprofitable due to the higher cost of financing them.

The main focus of Austrian economists is placed on emphasizing the disruption of intertemporal resources allocated between stages of production, resulting in malinvestments. At the later stage, these projects turn out to be impossible to complete since there are not enough resources to finish all undertakings initiated during the boom episode. This argument was originally formulated by Ludwig von Mises: "Projects which would not have been thought profitable if the rate of interest had not been influenced by the manipulations of the banks, and which, therefore, would not have been undertaken, are nevertheless found profitable and can be initiated." (Mises 1912, 26)

In the microscale during the expansionary phase of the business cycle, firms will prefer to expand production. Since the interest rate is regarded not only as a cost factor but also as a factor of capitalization, decreasing the interest rate creates an incentive for

investments in fixed capital by way of capitalization of future yields (Machlup 1935). This is the effect of the increased present value of future return, which is capitalized at the new, lowest interest rate. This reasoning applies to both lowering interest rates directly by the central bank and to credit expansion. In the second scenario, the newly available funds push down the interest rate and create the impression that there are more resources available for investment in lengthy projects. At the same time, the decreased interest rate is the reason people are less willing to keep their income as savings, thus the further discrepancy between real and natural interest rate is created (Engelhardt 2012).

The main reason for keeping interest rates low is to boost the economic activity of agents. As a direct consequence, on a corporate finance level, it causes an increase in debt to capital ratio but also has an effect on capital budgeting decisions as described by Cwik (2008). Firms tend to not only increase the volume on investments but also replace investment in working capital with investment in fixed capital, widening the distance between real-time preference and the one imposed by the nominal interest rates. After the boom ends, these projects are abandoned as they are no longer able to generate positive cash flows. Some of the fixed capital used in undertaking can be moved to other projects, which was described by Wood (1984) as the illusion of depression: when companies decide to quit unprofitable undertakings, thus causing a decline in economic activity, but releasing the necessary resources for more effective projects. The resources which cannot be engaged in another project due to their specifics are considered sunk costs.<sup>1</sup>

### **3. INFLUENCE OF INTEREST RATE CHANGES ON THE NPV OF THE INVESTMENT PROJECT**

Net Present Value is an indicator used in order to compare projects realized in different periods of time and with different lengths. It

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<sup>1</sup> Mises (1949) used the distinction for convertible and partially or nonconvertible capital: "It is expedient to substitute the notion of the convertibility of capital goods for the misleading distinction between fixed and free or circulating capital. The convertibility of capital goods is the opportunity offered to adjust their utilization to a change in the data of production."

uses the discounted cash flow generated by the activity. The present value of delayed payoff can be found by multiplying the payoff by a certain discount factor, which is less than 1. If the value of the discount factor was greater it would mean that the dollar tomorrow is worth more than a dollar today, which denies positive time preference. Net present value is defined as follows:

$$(1) NPV = \sum_{t=0}^n \frac{CF_t}{(1+r)^t}$$

where:

$CF_t$  = a cash flow to be received in a period of time  $t$ ,

$r$  = discount rate.

Ludwig von Mises and Irving Fisher suggest using the present value approach to economic calculation since the price of an investment project is moving towards the present value of the project's expected cash flows<sup>2</sup>. Present value approach was also advocated by Rothbard (1962, 62–63):

It is clear that the higher the rate of discount, the lower the present value of the future good will be, and the greater the likelihood of abstaining from the investment. On the other hand, the lower the rate of discount, the higher the present value of future goods will be on the actor's value scale, and the greater the likelihood of its being greater than the value of present goods forgone, and hence of his making the investment.

The consequences of interest rate changes and their effect on the valuation of projects were examined by Fuller (2013) and can be presented graphically:

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<sup>2</sup> Both values are equal in equilibrium or in the Evenly Rotating Economy

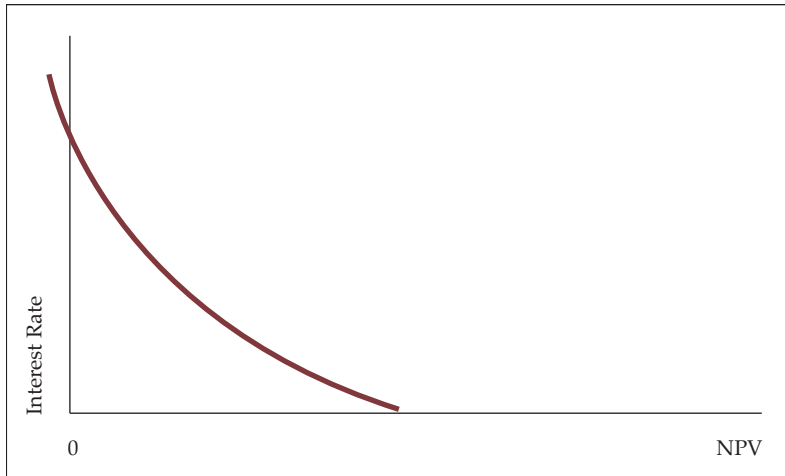
**Figure 1. Net Present Value Profile**

Diagram from Fuller (2013).

There are three indications of the NPV profile shape: the NPV of the project increases as the interest rate falls, the chart is curved, so the NPV profile becomes flattened as the interest rate falls, meaning that the change in interest rates causes not proportional change in NPV and this dependence is explicit in long term investment projects in particular, since the longer stream of cash flows is discounted. Third, the NPV profile intersects the interest rate axis at the point where NPV is zero, indicating the positive NPV area on the right from the vertical axis (Fuller, 2013).

If the present value is used as an indicator of a project's profitability, then the expected reinvestment rate should be used as a discount factor, since comparing two projects of a different outlays requires comparing in relative, rather than absolute terms. In that case, it is necessary to compare "present value per dollar of outlay" (Solomon, 1956). The valid comparison can be made not only with similar projects but also with two different courses of action, which can be brought to the same measure using NPV.

Wealth maximizing investors use NPV to rank their investment projects while competition in the market creates a tendency for the price of an investment project to equal the present value of expected



cash flows. This is because investors will bid up the price when it is below the present value and bid it down when it is above, a simple arbitrage process. In the wooden and steel bridge example first described by Hansen (1953, 118) and later developed by Fuller (2013), there is presented the disproportionate effect of the change of the interest rate on the short-term and long-term projects. Since the lowering of interest rates favors longer projects, it is intuitive that these projects are usually associated with greater uncertainty, since they absorb resources for a longer period of time. The risk of the interest rate change may be one of the components that has an impact on how safe the particular investment is. For the purpose of expanding and quantifying this intuition, risk measures such as duration can be used.

#### 4. DURATION AS A RISK MEASURE

One of the reasons for the 2007 crisis was aggressive profit targeting. As a result, agents tended to focus on the higher return from their investments, neglecting the difference in risk associated with their decisions. Since they were acting in the low rates environment, in the long term, more risky projects seemed more attractive as there was a possibility to achieve higher profits by engaging in these. That is the reason we cannot exclude risk from its role in the profitability of the investment projects, and this factor should be included in further analysis. It is not surprising that risk is positively correlated with higher potential profit. As a result of entrepreneurs being more likely to forecast consumers' demand in the near future, they generate greater errors in forecasting longer periods. Therefore, on average, there is a higher probability of erroneously forecasting more distant cash flow than those forecasts of cash flows to be received in the relatively near future.

In the short run, if we examine the wealth generated by the project without adjusting the forecasted values for risk, the output of the economy appears better when it is associated with an incipient boom. Consequently, in the medium or long run, collapse starts when this risk taken by the entities materializes.<sup>3</sup> In the beginning, the projects

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<sup>3</sup> Materialization of risk may be explained by an example: when a large number of companies engage in similar ventures, with a 70 percent probability of success each, it means that, on average, this will end up as a loss for about 30 percent of companies.

generate positive cash flows and investments pay off, but eventually at least part of the risky investments will not succeed and the bust phase of the business cycle begins. Generally, the lower the interest rate, the more profitable investments in more roundabout projects appear. At the same time, the risk grows. This implies shifting the economy to a more risky position with higher potential returns (Cowen, 1997).

To quantify this risk, the risk-adjusted NPV as a measure of profitability should be used. Since wealth maximizing investors are evaluating projects only using risk-free NPV they may underestimate the risk associated with their investment decisions. One of the risk measures for the purpose of adjusting NPV for risk can be the duration measure. It was discovered and developed by Frederic Macaulay (1938) for the purpose of measuring the average time an investor waits to retrieve his money from an investment. Hicks independently derived “average period,” an equivalent measure of elasticity, with respect to a discount ratio (Hicks 1939, 186). Although it has other applications, duration has been successfully used in problems regarding the reduction of basis risk, and even Macaulay himself was primarily focused on “the risk-proxying properties of his measure, despite the assigned name duration.” (Cox, Ingersoll, and Ross, 1979) Although it was originally designed for bonds, it was later developed to be used effectively in capital budgeting (Blocker and Stickney, 1979). The duration is represented as follows:

$$(2) \quad D_{r,n} = \frac{\sum_{t=1}^n \frac{CF_t t}{(1+r)^t}}{\sum_{t=1}^n \frac{CF_t}{(1+r)^t}}$$

where:

$CF_t$  = a cash flow to be received units of time from today, beginning with  $t=1$  period from today,

$r$  = an appropriate discount rate for determining the present value of the cash flow,

$t$  = units of time.

The formula represents a weighted average of the stream payments, where the maturity of each payment is weighted by the proportion of the total value of an asset accounted for by the

payment (Haugen 1990), so the duration, in a way, represents an average life of an asset.

For the purpose of capital budgeting, the duration can be measured as the duration of the net cash inflows and the duration of the net cash outflows (Durand 1974, 25). The properties of this measure, as Blocher and Stickney (1979) pointed out, are as follows:

1. The duration of a stream of cash flows is always less than the time of the last cash flow (unless the stream is single cash flow, in which case duration is equal to the number of periods which elapse until that last cash flow).
2. The difference between a project's life and its duration is relatively small for shorter-lived projects but increases as the life of the projects is increased.
3. Duration varies inversely with the discount rate used. The higher the discount rate, the shorter will be the time until the average present value dollar is received.
4. For a project with a zero or positive net present value at the certain discount rate used, duration increases at a decreasing rate as the foreseen life of the project is increased, but it is bounded.
5. Duration is relatively insensitive to the discount rate used for shorter-lived projects but becomes more sensitive to the discount rate as life is increased. (pp. 3–4)

When used in predicting bonds' prices, duration assumes a linear relationship between price and changes in interest rates. In reality, however, prices rise more than proportionally as interest rates fall and decrease at an increasing rate as interest rates rise. As a result, the duration will underestimate the price increase, meaning that the risk can still be undervalued.

To illustrate the calculation of duration we will use the following example:

Table 1. Duration Calculation

(1) Year	(2) Cash flow	(3) Present value factor at 5%	(4)=(2)x(3) Present value of cash flows	(5)=(4)x(1) Weighted cash flow
1	10,000	.95	9,523.81	9,523.81
2	5,000	.91	4,535.15	9,070.29
3	2,500	.86	2,159.59	6,478.78
4	1,000	.82	822.70	3,290.81
5	500	.78	391.76	1,958.81
Sum			17,433.02	30,322.51

For this project, the duration is 1.74 and this is the number we receive by dividing the sum of the column (5) by the sum of the column (4).

Duration is also used as a measure of expected changes in market prices of bonds after a change in interest rates. The relation between duration ( $D$ ), price ( $P$ ) and interest rate ( $r$ ) is described by the equation:

$$(3) \frac{dP}{P} = -D \frac{dr}{(1+r)}$$

Meaning, *ceteris paribus*, the greater the duration, the more sensitive will be a bond’s price to changes in the interest rate. The elasticity aspect of duration ensures its usefulness in capital budgeting decisions for the purpose of a measurement of a loss in the net present value of a project suffered from a change in required rates of return. In two comparable projects the shorter the duration, the less net present value of the project is vulnerable for interest rate changes (Blocher and Stickney, 1979) and the safer the investment, since the investors are waiting for the return, on average, for a shorter period of time. There is, however, a side effect of this approach: when investors expect the interest rate to fall, the investment in projects with a longer duration will experience a larger increase in their value than others, meaning that investors may shift to those projects if NPV valuation is not supported by further risk analysis. It may be perceived as the proper investment decision as long as the low interest rate environment is controlling. The problem is that

longer investment projects are considered more attractive. But it is probable that the interest rate will increase during the project's life. That will change profitability drastically.

Since duration reflects the average length of time consumed waiting for receipt of the cash flow generated by the project, it also demonstrates the liquidity of the project. It competes in that area with a conventional payback method,<sup>4</sup> but duration surpasses payback period in that function since only duration can be incorporated in the analysis of NPV, and not as a supporting indicator alone.

## 5. DURATION EFFECTS ON NPV

Since, as explained in the above analysis, investors after lowering interest rates are switching their preferences to more capital-intensive, longer-term investments, at the same time, on average, they turn to projects with a longer duration. This means that during the phase of the boom of the business cycle economy shifts to a more risky position. Since the agents are targeting profit, there is a little attention paid to the risk exposure, measured by duration, of their projects.

Taking into the examination the example presented by Fuller (2013) of the two alternative projects, the further analysis of two investment projects will be carried out: a wooden bridge requiring a lower financial expense of 2,000 units and providing a constant cash flow of 1,000 in the next 3 years, and a steel bridge requiring the expense of 5,000 units and providing 0 units cash flow for the next 2 years, and a constant 1,000 units for the following 8 years, which is presented in the following table:

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<sup>4</sup> Payback period is the amount of time it takes to recover the cost of an investment

**Table 2. Cash Flows Schedule**

Time	Wooden bridge	Steel bridge
0	-2,000	-5,000
1	1,000	0
2	1,000	0
3	1,000	1,000
4		1,000
5		1,000
6		1,000
7		1,000
8		1,000
9		1,000
10		1,000

The interest rate for which these projects generate the same net present value, meaning that they should be indifferent in the investors ranking, is approximately 5.48 percent. Discounted by this rate, the net present value of the projects is around 699.10 units. Calculating the duration for both provides more information about the expected returns. Since the duration for wooden bridge equals 1.96, and for the steel bridge it is 6.22, investors have to wait for returns from invested capital more than three times longer if they decide to invest in the steel bridge, which is associated with a higher risk for their income. But further assume that the investors demand a higher return and the interest rate increases from 5.48 percent to 7 percent. In this scenario, the net present value of the wooden bridge decreases only to 624.32 from 699.10, which is about an 11 percent decrease, while the steel bridge net present value decreases from 699.10 to just 215.56, which constitutes a 61 percent decrease, showing how sensitive projects with a large duration are to changes in interest rates.

This may explain why even a slight change in the interest rates may cause a dramatic change in the profitability of a project. Since in the present low rate environment, we expect that the average undertaken project has a longer duration, the expected vulnerability to the discount rate changes also increases.

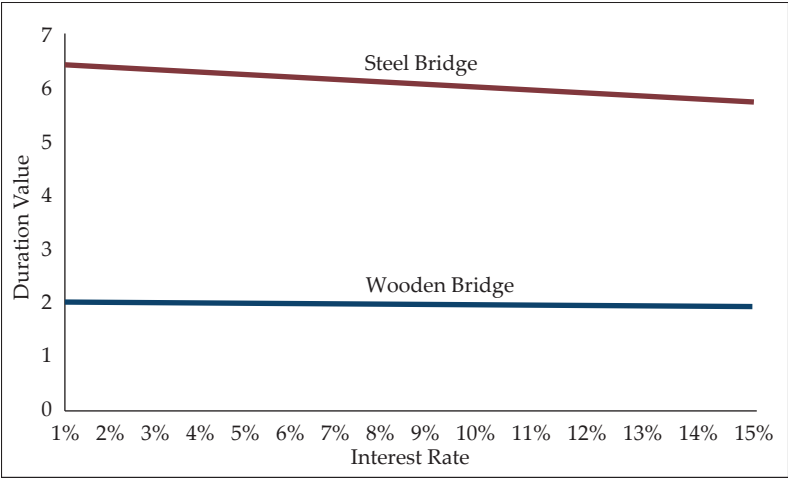
**Table 3. NPV and Duration Schedule**

Wooden bridge					Steel bridge				
Interest rate	Duration	NPV	NPV change	% change of NPV	Interest rate	Duration	NPV	NPV change	% change of NPV
1%	1.99	941.0			1%	6.45	2500.9		
2%	1.99	883.9	-57.1	-6%	2%	6.40	2041.0	-459.89	-18%
3%	1.98	828.6	-55.3	-6%	3%	6.34	1616.7	-424.29	-21%
4%	1.97	775.1	-53.5	-6%	4%	6.29	1224.8	-391.93	-24%
5%	1.97	723.2	-51.8	-7%	5%	6.24	862.3	-362.48	-30%
6%	1.96	673.0	-50.2	-7%	6%	6.20	526.7	-335.63	-39%

To fully understand the duration's significance in NPV analysis we present selected values in the table. The first conclusion is that the greater the interest rate, the smaller the duration is. It is the result of the NPV profile. When we increase the discount factor used for future cash flows, the more advanced payments are getting a lower share in the total NPV sum compared to prior payments. As a result, using the duration interpretation, we do not wait as long for future cash generated by the project as we do when using the same payment with a lower interest rate, due to the fact that later payments are given less significance. It also must be noted that the duration changes associated with interest rate changes are not substantial and are even small for the shorter projects.

The second conclusion which we can derive from the values in the table is that the greater the duration, the greater NPV loss from the increase of the interest rate. It is worth noting that this is only true for nominal values.

Figure 2. Duration Profile



In Figure 2, different duration values for different interest rates are presented. Although changes are not significant, it can be easily seen that the values for duration for the shorter project, the wooden bridge, are steady. Despite the fact that the NPV and the returns from investment are changing, the average waiting period for the investor to recover his money from the investment is not. In case of the longer, more deferred project, we see a steady drop in duration value as the interest rate increases. Although, as we mentioned, generally shorter projects are less risky, in this case the decline in duration is associated with decreasing share of later payments in overall value. That means that the greater weight is given to the less distant payments, which is decreasing the duration, but at the same time NPV values are decreasing on a larger scale.

If the interest rate is artificially reduced by a central bank, the duration gap between shorter-lived and longer projects increases. This causes a greater hazard for the second type of projects as their payment is not only subject to interest rate risk, which can be measured by duration, but is also subject to the uncertainty associated with changing economic conditions of business.

Longer-term projects are more information sensitive and are subject to profitability changes due to uncertainty. Even though



this is unquantifiable, the entrepreneurs have to make a prediction about the forecasted cash flows generated by the company investment decisions. As described by Ludwig von Mises (1951, 27): "There is no certainty about the future state of the market and about the height of these earnings. They can only be determined by speculative anticipation on the part of the entrepreneur."

The duration may prove useful to quantify at least some risks regarding the previously estimated profit not being realized. The duration may show that not every long term project is equally risky—e.g., risk may also depend on how flat the yield curve is for a particular project.<sup>5</sup>

## 6. RISK-ADJUSTED THE NET PRESENT VALUE

Since the net present value is sensitive to interest rate changes, especially long-term projects should not be discounted with a nominal interest rate. Expanding the analysis for the illiquidity risk-adjusted interest rate could further develop the analysis. For projects in which annual cash flows constitute an annuity, the algorithm for the duration is reduced to:

$$(4) D_{r,n} = \frac{1+r}{r} - \frac{n}{(1+r)^n - 1}$$

Where  $r$  is the value which equates the present value of the inflows to the price of the investment. For project analysis it can be the yield rate, the cost of capital rate, a risk-adjusted rate, or any rate that an investor may use as a required rate of return (Brown and Kulkarni 1993).

To perform the NPV analysis, the company can estimate the discount rate for each project using the Capital Asset Pricing Model (CAPM) method.<sup>6</sup> While it is not the method consistent with the Austrian theory, it is still one of the most popular tools used by large companies on the market, which is the reason we cannot neglect its importance. Graham and Harvey (2001) surveyed 392 CFOs about the cost of capital, capital budgeting, and capital structure. The

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<sup>5</sup> The flat yield curve indicates that there is almost no difference between short-term and long-term rates for bonds and notes of similar quality.

<sup>6</sup> CAPM defines the relationship between systematic risk and expected return for assets.

results indicate that “the CAPM is by far the most popular method of estimating the cost of equity capital: 73.5% of respondents always or almost always use the CAPM. The second and third most popular methods are average stock returns and a multibeta CAPM, respectively” (Graham and Harvey 2001). CAPM is also popular among academics. Research conducted by Welch (2008) revealed that about 75 percent of finance professors still advocate using the CAPM to estimate the cost of capital. Furthermore, there is evidence that while the CAPM deliberately fails to predict asset prices, it is more useful for the purpose of estimating the cost of capital (Da, Guo, Jagannathan 2012). Even if we do not fully acknowledge the prediction made using the CAPM model including the duration in the equation may reduce the entrepreneurial mistakes caused by the non-risk-adjusted version of it, which is the reason the model is included in the paper.

The model determines the required rate of return for an investment as the sum of the risk-free rate ( $R_f$ ) and a premium, which is the product of beta and the difference between the market rate of return ( $R_m$ ) and the risk-free rate:

$$(5) \ r = R_f + \beta (R_m - R_f)$$

In order to obtain beta coefficients for investments, the method requires regressing the returns of the projects against the market returns, if available. In the case of the wooden and steel bridges, the most reasonable assumption is the beta coefficient for both projects moving in exactly same direction and having the same impact of changes on required return as a market<sup>7</sup>, meaning that beta equals 1 and using the market return of 5 percent (for which the steel bridge is a more attractive investment using net present value as an indicator). The risk-free rate is usually described as the government bonds' rate since they are currently considered the safest investment. We further make a conservative assumption that the risk-free rate is at 2 percent, meaning that 3 percent is the risk premium.<sup>8</sup>

<sup>7</sup> Beta belonging to the interval (0,1) means that the investment is reacting slower than the market, and beta greater than 1 means that every time the market rate changes the required rate of return changes more than the market rate.

<sup>8</sup> The greater the risk premium, the greater impact duration will have on the risk-adjusted net present value. Since private investments usually have a few times higher return than the risk free rate, the 3 percent risk premium is a safe assumption.

We will now try to adjust the net present value of the wooden and steel bridges from the example using the following equation presented by Brown and Kulkarni (1993):

$$(6) \quad i = R_f + \frac{D_{i,n}}{D_{r,n}} \beta (R_m - R_f)$$

where:

$i$  = the rate of return adjusted for duration and timing of the cash flows

$r$  = the required rate of return on a project,

$D_{(i,n)}$  = duration of a project with periodic cash flow over  $n$  years discounted at the rate appropriate for the duration of that project

$D_{(r,n)}$  = the duration of a project with equal periodic returns over the project life of  $n$  years discounted at the  $r$  rate

The equation derives from the standard CAPM equation with inclusion of liquidity adjustment coefficient ( $D_{i,n}/D_{r,n}$ ). A justification for including this ratio in the equation is that the "the ratio of duration of any project of  $n$  years life to the duration of a uniform series project of the same life, when multiplied by the risk factor should produce a close approximation to what the rate should be to correct for duration" (Brown and Kulkarni 1993). Since  $D_{r,n}$  is the function of only the project's life and rate and it assumes equal periodic returns over the life of the project, it can be calculated using equation (4) using  $r$  just as in the CAPM model.

The values of  $i$  and  $D_{i,n}$  remain to be calculated. We know that for a project with a higher earlier duration, the risk is decreased, so adjusting for the duration of the projects also decreases the discount rate. This is analogous to the case of the projects with lower earlier cash flows. Therefore we know that if the duration of the project is less than  $D_{r,n}$ , then  $i$  will be less than  $r$ , and  $i$  will be greater than  $r$  if the duration of the project is greater than  $D_{r,n}$ , as in this case. We find values of  $i$  and  $D_{i,n}$  in the following way: first, we assume  $i = r$  and compute  $D_{i,n}$  using (2). Then we find the difference between the left and right sides of (6). Therefore, we know whether our  $i$  lies in the interval  $[0, r]$  or  $[r, \infty]$ . Finally, we may use any method for finding roots, such as the bisection method, to find the value of  $i$  that makes both sides of (6) equal, again using (2) for finding  $D_{i,n}$ .

For a steel bridge the proper discount rate  $i$  equals 5.65 percent with duration  $D_{i,n}$  6.21. Since the wooden bridge generates stable cash flows every year  $D_{i,n}=D_{r,n}$  for this project, this means that the discount rate for this project is the same as the initially used 5 percent.

**Table 4. NPV and Risk-Adjusted NPV Comparison**

	Wooden bridge	Steel bridge
Discount rate	5%	5%
Net Present Value	723.25	862.32
Corrected discount rate	5%	5.65%
Net Present Value risk-adjusted	723.25	639.64

Even though the steel bridge seemed the more attractive investment at the 5 percent discount rate and was higher in the NPV ranking, after adjusting the discount rate for the risk, the new risk-adjusted NPV changed the valuation, and in the effect the safer investment: the wooden bridge project is preferred.

7. CONCLUSION

Since the net present value is a frequently used indicator of the profitability of projects, when we consider its disadvantages—volatility resulting from even subtle interest rate changes—enhancing this measure for quantification of this risk can provide further information for investors. Since the duration of a project captures the impact of both uncertainty of future income and sensitivity for interest range changes in low rate environments, it can be used as a measure for interest risk changes and as a factor in determining the risk-adjusted NPV value. As presented in this paper, adjusting for risk can produce a different order of profitability of projects, enriching the analysis and preventing more risk-averse investors from taking excessive risk, which inextricably linked with longer investment projects.

It is worth noting that using such models for the purpose of making future predictions may constitute a part of the entrepreneur’s *verstehen*. In order to forecast future conditions of economic

activity, entrepreneurs must use qualitative forecasts that are supported by his judgment. This was also the view emphasized by Rothbard (1997): "Misesian Man knows a lot; but he does not know everything and he must try to estimate the future, given various quantitative and qualitative estimates of change." Duration is definitely among important parameters which have to be taken under consideration by entrepreneurs.

Previous research on corporate finance was focused on the liquidation phase and depression (Cwik 2008) or the focus was placed on the roundaboutness of projects (Cachanosky, Lewin 2014). A deeper understanding of financial foundations of the business cycle can increase knowledge of the effects of an easy monetary policy along with a better understanding of causal relations between companies' decisions and any emerging crisis. While there is a common agreement about the wrong valuation of risk by companies throughout the business cycle, there is little evidence about the foundations of this factor underestimation. One of the reasons may be using measures that are not risk-adjusted and which may create an illusion of profitability in a current low rate environment.

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# CLEARINGHOUSE CERTIFICATES DURING THE GREAT DEPRESSION: A NON-EXAMPLE OF “UNACCOUNTED MONEY”

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JEL CLASSIFICATION: B53, E14, E51, N12

**ABSTRACT:** This article examines the non-issue of bank clearinghouse certificates during the Great Depression of the 1930s. Instead of a market failure, this non-issue is found to have been the result of an intervention. At the time, the issue of clearinghouse certificates to temporarily meet the need of the economy for a medium of exchange following a financial panic was a well-established practice. To make a long story short: In 1933, plans were underway by bankers to resort to this expedient. Merchants and the public at large were anxious to get their hands on the money substitute. But federal authorities said no. Instead of a short-term fix, following which the economy would return to its former ways, federal authorities had other plans. This paper examines both the specifics of the issue of emergency money during the Great Depression and the general principles involved in such issues.

## 1. INTRODUCTION

According to Paul Krugman (1999, 8–11), a contributing cause to a depression is hoarding. Because of hoarding, the government

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should issue massive amounts of money to prevent recessions from turning into depressions. But, why must the government do this? Why can't the private sector issue money during an emergency? At one level, the answer is easy: the government has monopolized money and prohibits the private sector from issuing money during an emergency. At another level, the answer is complicated.

Relying on numismatic sources, Richard Timberlake (1981, 860) demonstrated that the private sector repeatedly issued massive amounts of money during the hard times of the early to mid 19<sup>th</sup> century. While there appears to have been some number of issues throughout the period, private, non-bank issues of money mostly appeared during certain times (1814–17, 1837–40, 1857–58, and 1862–64). Timberlake describes this money as “unaccounted.” Subsequent research has documented other instances of unaccounted money including Michigan when the state was nearly without banks (Baily, Hossain and Pecquet 2018), and New Orleans when it was occupied by northern troops during the Civil War (Pecquet and Thies 2010). During the National Bank Era, clearinghouse associations took the lead in issuing money during financial crises (Dwyer and Gilbert 1989, Gorton 1985). So why was there no clearinghouse money during the Great Depression of the 1930s?

In 1999, when Krugman wrote *The Return of Depression Economics*, it was received strangely. It was a thin book, written in large type, short on economics and long on story-telling. Supposedly, it was about Japan's “lost decade,” when—according to Krugman—they had not increased their national debt enough. Yet, Japan's national debt had grown to 200 percent of GDP. Krugman updated the book, *The Return of Depression Economics and the Crisis of 2008* (2008). In the update, his concern was that the U.S., with a budget deficit of 12 percent of GDP, was not adding to its national debt fast enough.

To illustrate the problem of hoarding, Krugman used the example of the Capitol Hill Baby-Sitting Co-op of Washington, D.C., of the 1970s. As Krugman describes this co-op, it consisted of lawyers and other such well-heeled persons who decided that, instead of hiring baby-sitters, they would take turns baby-sitting each others' children. The co-op required that its members only obtain baby-sitting services from each other, and use chits distributed by the co-op for the service. But, the members of the co-op hoarded the chits they had (in order to have them available when they really needed baby-sitting services),

rather than use them freely in order to go out. And, since few people were purchasing baby-sitting services, nobody could be sure of acquiring chits through the offer of baby-sitting services, which only served to reinforce the urge to hoard chits.

After trying various New Deal-type “solutions” to the hoarding problem, such as requiring members to go out at least twice a month, the Co-op happened upon the idea of distributing more chits. The additional chits allayed members’ concerns that had led to the hoarding problem, and the market in baby-sitting services picked up.

What does Krugman’s story of the hoarding of baby-sitting chits have to do with depressions? During depressions, people lose confidence in their ability to earn money by offering their labor and other productive services. They therefore seek to build up cash reserves, i.e., to “hoard money.” But, the Keynesian story goes, the hoarding of money lowers the demand for labor and other productive services, resulting in a further loss of confidence, and intensifying the urge to hoard.

Other examples of hoarding come readily to mind. During the coronavirus panic of 2020, there was a run on toilet paper. Because people were not confident in future supplies of the item, they rushed to buy it, and emptied the shelves. Voila! stores ran out of toilet paper, just as panicked shoppers feared. But the shortage was only temporary, and the supply chain quickly restored retail inventories.

Throughout most of the world, replacement kidneys are in short supply as most people “hoard” their extra kidney not being confident of being able to obtain a replacement kidney if the need should arise. But not in Iran, where the authorities allow an internal market in kidneys. In that country, replacement kidneys are in good supply (Fry-Revere 2014).

In 1834, in conjunction with the failure of one bank (the Bank of Maryland) and rumors about others, there was a run on the banks of Baltimore. People lined up at banks to demand their specie (*Niles’ Reporter*, March 29, 1834). But, as the day wore on, those in line saw others leaving their banks with their bags and wheelbarrows heavy with coins, and—their fears allayed—people began leaving the line. Later in the day, some who had earlier gotten their specie were returning their coins to their banks. Accordingly, there was no general suspension.

Each of these examples indicates that a government intervention is not always needed to solve a hoarding problem (interpreting allowing a market in Iran as reduced involvement by government). Even the example cited by Krugman was resolved by the Baby-Sitting Co-op without a government intervention.

There is more to what is called the “hoarding” of money than the impact of income uncertainty on what the Keynesians call aggregate demand.<sup>1</sup> Historically, times of hoarding were times of bank suspensions and of runs on the bank, and sometimes they were also times of uncertainty regarding the gold standard and runs on the dollar.<sup>2</sup>

The impact of hoarding can be particularly severe with a fractional reserve banking system. In a fractional reserve banking system, every dollar removed from banks forces *a multiple* reduction of the money supply. Furthermore, a “run on the bank” might result in banks being forced into suspension, immobilizing the funds still in them. The run of the bank can force a suspension even if the bank has positive net worth and reserves sufficient to meet the run because maintaining a certain amount of reserves is required by law or regulation.

In the past, when banks suspended, a great deal of the money people had in their banks became illiquid, meaning that it was unavailable as a medium of exchange. The combination of reduced consumer confidence, job insecurity, a reduced money supply, money tied up in banks in suspension, concerns for additional bank failures, and speculation on gold caused people to cut back on their spending either for lack of income or in order to build-up a cash reserve, and deprived the economy of a portion of its medium of exchange.

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<sup>1</sup> The connotation that hoarding is anti-social can be said to be at least as old as Jesus’ parable of the talents, in which the master scolds the servant who had buried the money entrusted with him, instead of depositing it with a banker so that the master, upon his return, could have received his capital with interest (Matthew 25: 14–28). But it is difficult to distinguish the socially-useful purposes of such things as the buffer stocks of business, strategic reserves of a country, and the liquidity services of cash balances, from anti-social behavior, and easy to blame the public for the loss of confidence in banks.

<sup>2</sup> There clearly was a run on the dollar in conjunction with the Panic of 1893. This run on the dollar was only ended by the dramatic repeal of the Sherman Silver Purchase Act of 1890 during an extraordinary session of Congress called by President Grover Cleveland (Timberlake 1993, 166–82; see also Calomiris 1993, Thies 2005).

To be sure, hoarding might not have been a primary cause of a recession. Hoarding might have only broken out when the public became concerned for the soundness of money and/or of the banking system, and thus may have been a secondary cause making a recession worse. In the monetary history of the United States, money generally disappeared only *after* banks were forced into suspension.

The great champion of the gold standard Ludwig von Mises recognized the usefulness of money substitutes to deal with bank panics. “[I]t has repeatedly happened in times of crisis that confidence has been destroyed,” he said (Mises 1953, 371). This loss of confidence in bank deposits would result in “a collapse of a part of the national business organization” if allowed to run its course. In England, the Bank of England emitted additional bank notes; and, in the United States, which had no central bank, clearing house certificates were emitted (372). Even though such actions seemed to violate the “rules of the game” of the gold standard, Bordo and Kydland (1996, 85) say these actions may have supported the commitment to the gold standard in the long run.

F.A. Hayek (1967, 109), in an often-misunderstood passage, described the phenomenon as a “secondary depression.” Walter Bagehot’s dictum, that central bankers should lend freely on good collateral to solvent banks at high interest rates during panics, would seem to obviate the effects of hoarding; but, what if there is no central bank (as during the National Bank era); and, what if the central bank does not follow his rule?

## 2. CLEARINGHOUSE ASSOCIATIONS

During the National Bank Era, and with some acquiescence by law and regulation,<sup>3</sup> the market developed an effective method to deal with the problems of bank suspension and hoarding through the issue of scrip, or emergency money, by banks and their clearinghouse associations. Originally, this emergency money was used only among banks. But, over time, at first in the South and

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<sup>3</sup> Hepburn (1924, 351–52) mentions the prohibitory federal tax on privately issued banknotes that was not enforced during financial panics, because of the emergency conditions. There were also state and federal laws directly prohibiting the issue of banknotes, or treating them as counterfeits of U.S. currency.

then elsewhere, this clearinghouse money came to have a more general circulation. To be sure, clearinghouse money was not the only measure employed by the market to deal with the bank suspension and hoarding problems. But clearinghouse money became, by far, the most significant measure during the National Bank Era. According to A. Piatt Andrew (1908), following the Panic of 1907, when \$238 million of clearing house certificates were issued, \$96 million of other forms of scrip were also issued. The largest component of these other forms of scrip were payroll checks written by employers.

As A.D. Noyes (1909) details, following the Panic of 1893, the New York Clearing House issued \$38.3 million in clearinghouse certificates, and other clearinghouses across the country issued a total of \$69 million. These certificates circulated for about 19 weeks, at which time, the panic having ended, they were withdrawn from circulation, and normal operations resumed. Following the Panic of 1907, the New York Clearing House issued \$85.4 million in clearinghouse certificates. Including clearinghouses across the country, a total of \$238 million was issued. These certificates circulated for about 22 weeks.

Clearinghouse certificates had been issued following prior panics, in 1873, 1884 and 1890. Table 1 gives the amounts issued by the New York Clearing House from 1873 to 1907. An antecedent of clearinghouse certificates was utilized as early as 1857. That year, a form of clearinghouse certificate “backed” by securities issued by New York State and the U.S. Treasury was used for inter-bank settlements (Gibbons 1968, p. 364). This expedient was subsequently utilized several times during the 1860s.<sup>4</sup>

It was in 1873 that certified checks payable through clearinghouses were first issued as hand-to-hand currency. For example, soon following the decision of the New York Clearing House to adopt the Clearing House Certificate method for inter-bank clearings, the Louisville Clearing House suspended payments in legal tender currency (“greenbacks”) and paid out, instead, small checks based on the pledge of securities with the clearinghouse ([Memphis] *Public Ledger*, September 29, 1873, p. 2).

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<sup>4</sup> Swanson (1908) describes the first issue of clearing house certificates during the 1860s. Camp (1892) sketches the early history of the New York Clearing House, including its periodic issue of clearing house certificates.

In 1893, clearinghouse certificates were first issued as a hand-to-hand currency (Cannon 1910, 3). These retail-level certificates were mostly issued by clearinghouse associations in the South. In addition, checks issued by banks, manufacturers and others, suitable for use as a hand-to-hand currency, became commonplace. The *Richmond Dispatch* (August 12, 1893, p. 2) reports that these expedients worked well. Thousands of workers were paid in the scrip, which was in turn freely accepted by merchants.<sup>5</sup> A numismatic catalogue details dozens of specimens of certified checks issued by banks, clearinghouse certificates and manufacturer's payroll checks that were issued during this financial panic (Shafer and Shaheen 2013).

In 1907, small-denomination clearinghouse certificates were issued by clearinghouse associations in several regions of the country. As discussed above, the dollar amount of clearinghouse certificates issued approximately doubled the amount issued in conjunction with the financial panic of 1893. Hundreds of specimens of scrip issued by clearinghouses, banks, manufacturers and others are described in Shafer and Shaheen's (2013) catalogue.

In 1914, to offset financial tightness upon the outbreak of World War I, clearinghouse associations issued \$200 million of inter-bank clearinghouse certificates (see Table 2), and "currency associations" organized by national banks issued \$400 million in (emergency) National Bank notes under the Aldrich-Vreeland Act of 1907 ("The 1914 issue of ..." 1915, 509). These banknotes were not backed by U.S. Treasury bonds, but rather by qualifying securities such as state and municipal bonds and commercial paper; and, the issue was subject to a penalty interest rate. Because of the penalty interest rate on these issues of National Bank notes, they were quickly retired from circulation when the period of financial stringency passed, as were the clearinghouse certificates. Shafer and Shaheen's (2013) catalogue contains only a few specimens of scrip for this period.

### 3. HOW DID CLEARINGHOUSE CERTIFICATES WORK?

Initially and in the case of the New York Clearing House until its aborted issue of 1933, clearinghouse certificates were issued by

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<sup>5</sup> To be sure, the next day, even while reporting that the certified check system continued to work well, the newspaper reported that some mercantile houses refused the scrip.

clearinghouses in the making of loans to member banks in large denominations, secured by “good funds” attested to by the clearinghouse association, for the purpose of inter-bank settlements. As demonstrated by Gorton and Tallisman (2018), soon after the issue of these clearinghouse certificates by the New York Clearing House, the premium on currency relative to certified checks fell from about 5 to about 1 percent, restoring liquidity to the nation’s financial center. Bank and stock market suspensions were minimized or avoided altogether.

Outside of New York, financial panics often had lingering effects, including (1) partial or full suspension of cash withdrawals from banks, (2) difficulties in meeting payrolls, (3) dislocation of domestic exchange, (4) hoarding, (5) a currency premium, and (6) the issue of hand-to-hand money substitutes (Wicker 2000; James et al 2013). Banks and clearinghouse associations issued scrip to the public, variously described as cashier’s checks, certified checks and clearinghouse certificates, in small denominations suitable for a hand-to-hand currency. The clearinghouse certificates were typically “backed” by identified assets of clearinghouse member banks, and mutually guaranteed by the clearinghouse member banks. In addition, manufacturers and other businesses issued payroll checks in the manner of due bills, payable upon resumption of normal banking or by a certain date; and, merchants issued scrip redeemable in merchandise.

The bank and clearinghouse scrip were typically lent to an employer, who used them to meet a payroll, or else issued to depositors looking to make withdrawals during a time of suspension. Workers and depositors who received the bank and clearinghouse scrip then tendered them, like money, to various merchants (which is not to say that the merchants had to accept them, since they were not legal tender). Receivers of the scrip might use them to repay their loans from banks, or to make deposits in accounts at banks. Otherwise, they might themselves use the scrip as money. As long as the supply of bank scrip and clearinghouse certificates is small compared to the need of debtors to banks for money with which to make their loan payments, the bank scrip and clearinghouse certificates would pass at or near par.

Thus, among the ways the bank scrip and clearinghouse certificates worked is that they were created in the process of



making loans, and destroyed in the process of paying off loans. Also, they were issued to depositors during the time banks were in suspension, and destroyed when used to pay off loans or when re-deposited. During the brief time of their existence, they circulated as money for a temporary period of time under emergency conditions.

#### 4. SCRIP DURING THE GREAT DEPRESSION

If bank scrip and clearinghouse certificates moderated the effects of financial panics during the National Bank Era, why were they not issued during the Great Depression? The reason bankers did not, during the Great Depression, rescue the country from the worst series of bank panics in U.S. monetary history, is, first, the job of lender of last resort had been transferred from clearinghouse associations to the Federal Reserve; and, second, the government stopped the banks from issuing clearinghouse certificates. The clearinghouse associations, spontaneously and motivated by self-interest, developed the expedient of clearinghouse certificates to deal with financial crisis. The newly formed Federal Reserve, contrariwise, was to act with discretion and in the public interest. In hindsight, it is clear that clearinghouses acted dependably and even reflexively as a lender of last resort; while the Federal Reserve during its formative years thrashed about.

During March 1933, following the suspensions of many banks, several state bank holidays, and a looming national bank holiday, the bankers of the country, joined by merchants and others, were ready to issue hundreds of millions of dollars in clearinghouse certificates. But the government intervened and prevented it.

Prior to 1933, bankers had mostly resisted the call for scrip. Nevertheless, a number of localities had availed themselves of the same. According to the *New York Times* (January 15, 1933, IV:8), by early 1933, about 500,000 people were using some form of scrip. Some municipalities issued scrip in the payment of salaries to their workers and for other purposes. For example, Atlantic City, New Jersey, issued scrip during 1932, receivable by the city for payment of back taxes. Again according to the *New York Times* (March 3, 1933, p. 36), "The scrip [of Atlantic City] has had a wide circulation and



much of it has reached the office of Tax Collector Lewis L. Mathis for delinquent bills.”

In other cases, voluntary associations issued scrip in conjunction with work relief efforts. In Freeport, New York, for example, the Freeport Committee for Unemployment, with the support of “virtually all stores” in the town, issued \$50,000 in “stamp scrip.” This emergency money was to be issued to persons in payment for work on make-work projects, and was then to be spent in the stores of the town that would accept it. It was to re-circulate within the town for the next year. A fund for the redemption of the scrip was to accumulate through the purchase of stamps for affixing on the scrip, at the rate of 2 percent of its face value per transaction or per week. While the stamp scrip idea was one of the more inventive schemes that arose during the Great Depression of the 1930s, it should be considered that such difficult times often give rise to panaceas that, somehow, “solve the underlying problem” of a market economy (Myers 1940).

The private issue of scrip during the 1930s was given some impetus by the issue of wooden currency in 1931 by the chamber of commerce of Tenino, Washington (Brown 1941, 22–25; Preston 1933).<sup>6</sup> This scrip ranged in denomination from 25¢ to \$10, was printed on a thin slice of wood composite material, and was backed by the frozen assets of the suspended local bank. The scheme, born out of the need of the town for a medium of exchange when its one and only bank suspended, caught the fancy of the nation, and became something of a novelty item for tourists. Many subsequent issues by chambers of commerce and similar business groups, individual merchants and other community-based associations featured elements of both novelty and need. Table 3 describes some of the characteristics of the scrip outstanding in 1933.

Notice, in Table 3, how dramatically different were the issues of scrip outstanding in 1933 from those of the prior two major financial crises. During the prior two financial crises, banks and their clearinghouse associations made the majority of issues of scrip; and, together with manufacturers and others in the private, for-profit

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<sup>6</sup> Brown’s (1941) master’s thesis provided a panoramic view of scrip during the Great Depression. Contemporary works include Elvins (2005, 2010) and Gatch (2008, 2012).

sector, dominated the issue of scrip. In contrast, in 1933, there was no clear locus. Issuers of scrip were simply diverse. Also during the prior two financial crises, almost all scrip was in denominations of at least \$1. In contrast, in 1933, a lot of scrip was fractional currency. The changed composition of scrip reflects the more deranged financial conditions of the 1930s. Bankers, with their ability to recognize value in loan-making and, hence, to enhance the liquidity of the assets and earning power securing those loans, were being replaced by amateurs.

By March 1933, the problems with bank suspension, bank holidays and hoarding had become unbearable. Following the election of Franklin D. Roosevelt, and the possibility of radical legislation or even rule by decree, people throughout the country rushed to withdraw their money from banks. Banks were failing in droves, and, in one state after another, bank holidays were being declared or else withdrawals of deposits were being restricted to 5 percent of balances. In some places, moratoria were being declared on debt payments, and there was a growing suspicion that gold would be embargoed.

Instead of allaying the fears of the public, these bank holidays and other interventions only made things worse. Money started disappearing, including in particular coins and small-denomination paper currency. There was a run on the change-making machines at laundromats, and retailers stopped accepting high-denomination bills for small purchases.

On March 4<sup>th</sup>, when New York Governor Herbert H. Lehman declared a two-day bank holiday, banker sentiment shifted sharply in favor of scrip. That day, the New York Clearing House announced a rush plan to issue clearinghouse certificates upon the re-opening of the banks. At the printing facilities of the American Bank Note Company in the Bronx, crews started working round the clock to deliver up to \$200 million in scrip to the New York Clearing House, in denominations from \$1 to \$50, with additional orders by bankers in Baltimore, Boston, Chicago, Detroit, Philadelphia and elsewhere.

Throughout New York City, merchants and other vendors started announcing their readiness to accept the scrip, as well as bank checks, and their willingness to extend store credit to regular customers. According to the *New York Times* (March 7, 1933, p. 5), “There was something naïve in the anxiety of the public to get its

hands on the promised new medium of exchange.” But representatives of the New York, Philadelphia, Baltimore and Richmond clearinghouse associations were then called to Washington, D.C., by the Secretary of the Treasury. After a few days of negotiation, including an apparent approval of the bankers’ plans, authority to proceed with the issue of clearinghouse certificates was denied. Instead of allowing clearinghouse certificates, the administration pushed the Emergency Banking Act of 1933 through Congress. Among other things, this act gave the Federal Reserve enormous new power to issue currency. This was soon followed by executive orders and other legislation fundamentally changing the character of money and banking in the country.

## 5. PROBLEMS WITH SCRIP

From time to time during the National Bank Era, bank scrip and clearinghouse certificates served a useful function. They ameliorated the problem of deflation characteristic of a fractional reserve banking system during and immediately subsequent to a bank panic. Being illegal, bank scrip and clearinghouse certificates depended on forbearance by authorities, and quickly disappeared after the emergency was over. They did not permanently add to the money stock. With a gold standard, there was a meaningful link between the money supply and gold, although an elastic one because of fractional reserve banking. During normal times, there was a tendency for the money multiplier and therefore the money supply to increase. During banks panics, the money multiplier and therefore the money supply fell precipitously, with macroeconomic consequences. There were problems attendant to returning to the gold standard after a wartime suspension, and to the periodic discoveries of gold and improvements in the technology of gold mining. Still, the gold standard provided an anchor to the price level. If bank scrip and clearinghouse certificates were permanent additions to the money stock, the price level would become indeterminate. This only happened during the 1920s, when the Federal Reserve became enamored with the Real Bills Doctrine (Humphrey and Timberlake 2019).

Bank scrip and clearinghouse certificates were an inferior form of money to legal tender currency and demand liabilities issued

by banks; and, the menagerie of local currencies issued during the 1930s were even more inferior. These emergency forms of money circulated only locally and, because of their small scale, subject to a significant discount by brokers even when received at par within their locality, where brokers made markets in them. Brown (1941, 40–42) gives the example of Detroit's municipal scrip, that exchanged for legal tender currency at a discount of 5 percent. To some extent, appeals to community-mindedness overcame the inferiority of these various forms of emergency money. But, for the most part, the emergency money was only put into circulation through the payment of wages by state and municipal governments and private sector employers during a time of high unemployment. While there are only a few known cases of counterfeit scrip (again, Detroit's municipal scrip is an example [Brown 1941, 40–42]), this might simply be due to the fleeting existence of most issues of scrip.

## 6. STATE PREROGATIVE OVER MONEY

The market has exhibited tremendous ability to identify goods useful as media of exchange, from cattle and grain in the ancient world, to cowrie shells and wampum, to beaver pelts and deer skins, and from tobacco in colonial Virginia and cigarettes in WWII prison camps, to giant rocks on the island of Yap. George Selgin (2008) describes the private issue of coins during the industrial revolution in Great Britain. Nevertheless, the assertion of a monopoly over the medium of exchange by the government—what is called its prerogative over money—has frequently cut short the private issue of money; in some cases, with devastating consequences. Sometimes, there have been rather transparent attempts to evade restrictions on privately issued currency. For example, some money substitutes during the 19<sup>th</sup> century were declared redeemable in train fares or in merchandise so as to look like coupons and not a general medium of exchange (Timberlake 1981, 861–62). With the shortage of coins during the U.S. Civil War, some privately issued tokens in the form of copper pennies were inscribed “NOT ONE CENT”, as in “Millions for defense, but NOT ONE CENT for tribute.”

During the 1870s, the use as money of payroll checks and due bills issued by the mining companies of Michigan's northern peninsula was abruptly ended when these money substitutes

were declared subject to the federal government's prohibitory tax on private banknotes (Thies 2019). In 2009, the issuer of the "Ron Paul dollar" was convicted of violating the federal government's law against issuing anything designed to circulate as a medium of exchange (Ramsey 2008). In contrast, the issuers of the Ithaca dollar and other "community currency" (Collom 2005, Kim, Lough and Wu 2016) have not been prosecuted, possibly because they did not threaten the system. From 1933 to 1977, the federal government not only banned the private ownership of gold and abrogated the gold clause in bonds, it banned all forms of indexation (McCulloch 1980).

The failure of banks to issue scrip during the Great Depression of the 1930s was not a market failure, but the result of an intervention. Instead of resorting to the proven expedient of clearinghouse certificates to meet an emergency need for a medium of exchange, the incoming administration had much bigger plans. It would be like a babysitting co-op deciding that the way to deal with the hoarding of babysitting chits is to take children away from their parents and put them into orphanages run by the co-op, instead of simply issuing enough additional chits to bring liquidity to the babysitting market.

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**Table 1. Clearinghouse Certificates Issued by the New York Clearing House Association from 1873 to 1907**

Date first issued	Date last issued	Date first cancelled	Date last cancelled	Total issued	Maximum outstanding
9/22/1873	11/20/1873	10/3/1873	1/14/1874	26.6 M	22.4 M
5/15/1884	6/6/1884	5/19/1884	9/23/1884	24.9 M	21.9 M
11/12/1890	12/22/1890	11/28/1890	2/7/1891	16.6 M	15.2 M
6/21/1893	9/6/1893	7/6/1893	11/1/1893	41.5 M	38.3 M
10/26/1907	1/30/1908	11/14/1907	3/28/1908	101.1 M	88.4 M

Source: Sprague (1910, 432–23)

**Table 2. Clearinghouse Certificates Issued by the Clearinghouse Associations during 1914**

	Date first issued	Date last issued	Date first cancelled	Date last cancelled	Total issued	Maximum outstanding
New York	8/3	10/15	8/26	11/28	124.7 M	109.2 M
Chicago	8/4	10/14	10/2	12/14	42.1 M	41.9 M
Philadelphia	8/3	10/2	10/16	11/28	11.5 M	11.5 M
Boston	8/4	10/5	10/7	11/24	11.4 M	11.4 M
St. Louis	8/5	9/2	9/8	12/10	10.9 M	10.7 M
Baltimore	8/4	9/15	8/13	12/9	2.3 M	2.2 M
New Orleans	8/4	8/5	8/23	10/23	2.2 M	2.2 M
St. Paul	8/5	8/18	8/29	11/7	2.0 M	2.0 M
Minneapolis	8/6	8/29	9/30	11/5	1.9 M	1.9 M
Detroit	8/5	8/13	10/8	11/9	1.4 M	1.4 M
Louisville	8/5	8/5	12/1	12/1	1.2 M	1.2 M
Des Moines	8/6	8/15	8/15	11/7	0.2 M	0.2 M

Source: William B. Dana Co. (1915, 510)

**Table 3. Scrip issued during selected financial panics from 1893 to 1933**

	1893	1907	1933
Specimens in catalogues	166	1,219	3,138
% of issues by ...			
State and Municipal governments, agencies	7.1	0.2	23.0
Banks and Clearinghouses	50.6	79.3	27.7
Manufacturers, etc. <sup>[1]</sup>	42.4	20.5	39.5
Relief organizations <sup>[2]</sup>	-	-	9.9
Stamp scrip (any issuer) <sup>[3]</sup>	-	-	10.6
% of issues that included denominations of ...			
Less than \$1 only	2.4	0.6	9.1
Both	2.4	0.6	19.2
\$1 or more only	95.3	98.4	69.9

[1] includes merchants, mining companies, railroads and other transportation companies, chambers of commerce and other business associations, and community-based associations

[2] includes voucher-like chits distributed by work relief efforts; and, exchange certificates issued by labor cooperatives

[3] double-counts certain issues by governments, chambers of commerce and other business and community-based organizations

Sources: Mitchell and Shafer (1984), Shafer and Sheehan (2013)

# THE DISUTILITY OF LABOR

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JEL CLASSIFICATION: D01, J01, J20, J22

**ABSTRACT:** Some Austrian economists have argued that the disutility of labor is a necessary auxiliary empirical assumption to complement otherwise *a priori* economic theory in order for it to apply to the real world. Without this assumption, it is claimed that individuals will supply the full quantity of labor of which they are physically capable. We argue that the disutility of labor assumption is unnecessary to derive this conclusion, which can instead be derived through standard marginal analysis. Leisure (the state of not engaging in labor) is a necessary complementary good for consuming other goods. As such, leisure's status as a consumer good is *a priori* true, not an empirical assumption. Furthermore, the concept of disutility of labor is not only unnecessary but also leads to confusion due to its being used in two different ways, and therefore ought to be discarded.

## 1. INTRODUCTION

Prominent economists in the Austrian tradition, including Ludwig von Mises and Murray Rothbard, consider the empirical assumption that labor involves disutility to be necessary to supplement the otherwise *a priori* analysis of praxeology in order

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to develop a theory that is relevant to our world. Without such an assumption, Mises argues, individuals would supply as much labor as they are physically capable of providing:

In a world in which labor is economized only on account of its being available in a quantity insufficient to attain all ends for which it can be used as a means, the supply of labor available would be equal to the whole quantity of labor which all men together are able to expend. In such a world everybody would be eager to work until he had completely exhausted his momentary capacity to work. The time which is not required for recreation and restoration of the capacity to work, used up by previous working, would be entirely devoted to work. (1998, 131)

However, in our world, as Mises would argue, labor is usually also economized on account of its involving disutility, and therefore individuals will cease to engage in labor even if they are physically capable of providing more. In contrast to Mises's fundamental concept of action, the assumption of disutility of labor is not a necessary prerequisite of praxeological analysis. He explains:

The disutility of labor is not of a categorial and aprioristic character. We can without contradiction think of a world in which labor does not cause uneasiness, and we can depict the state of affairs prevailing in such a world. But the real world is conditioned by the disutility of labor. Only theorems based on the assumption that labor is a source of uneasiness are applicable for the comprehension of what is going on in this world. (Mises 1998, 65)

Similarly, Rothbard (1957, 316) states that praxeology contains one fundamental, *a priori* axiom—the action axiom—and a few subsidiary empirical postulates, including the assumption that leisure is a consumer good.<sup>1</sup> This could be interpreted as being equivalent to the assumption that labor carries disutility. If leisure were not a consumer good, then labor would not involve disutility, and individuals would not consider forgone leisure a cost. In such a world, they would provide as much labor as physically possible. But is that really true?

We argue that the empirical assumption that labor involves disutility is not necessary in order to derive the implication that

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<sup>1</sup> Interestingly, Rothbard (1957, 316) states that this assumption is unnecessary “for an analysis of Crusoe economics, of barter, and of a monetary economy.”

individuals will not choose to supply as much labor as they are physically able, but that such an implication can be derived through standard marginal analysis. Moreover, we will argue that equating the existence of opportunity costs to disutility is inconsistent. In addition to the benefit of making economic theory more parsimonious, we believe our paper clarifies this otherwise confusing concept.

## 2. DISUTILITY OF LABOR DEFINED

Before defining disutility of labor, it is helpful to define what labor is. According to Mises, labor is “the employment of the physiological functions and manifestations of human life as a means” (1998, 131), whereas leisure is the absence of labor. Alternatively, we could define leisure as the employment of the physiological functions and manifestations of human life as an end. This means that leisure is not only the act of “doing nothing,” but the use of one’s body for consumption, rather than production. This distinction involves a subjective element. The same physical activity could be labor or leisure depending on whether it directly serves the ends of the individual engaged in the activity, or does so only indirectly. To be clear, labor as such is a means. The physical activity undertaken cannot be solely an independent end itself, otherwise it would be considered leisure.

The disutility of labor is the forgone utility of forgone leisure. Leisure, as any other consumer good, is subject to the law of diminishing marginal utility: if only one unit of leisure is available, it is used to satisfy the highest ranked end. If two units of leisure are available the next most highly ranked end will be satisfied as well, and so on. The disutility of labor is the inverse of this process: one unit of time spent laboring will come at the cost of the lowest ranked end that would have been served by time in leisure, the second unit of labor will come at the cost of the second lowest ranked end, and so forth. Thus, labor is subject to increasing marginal disutility (Mises 1998, 132).<sup>2</sup> In other words, the disutility of labor is its opportunity cost in terms of leisure forgone.

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<sup>2</sup> Mises (1998, 132) writes, “We must conclude that the first unit of leisure satisfies a desire more urgently felt than the second one, the second one a more urgent desire than the third one, and so on. Reversing this proposition, we get the statement that the disutility of labor felt by the worker increases in a greater proportion than the amount of labor expended.”

It would be simple enough to stop here in terms of defining the disutility of labor, as the given definition is sufficient to accomplish the task of explaining what purely *a priori* reasoning is accused of being insufficient to explain, i.e., why individuals ever cease to engage in labor. However, there is plenty of confusion surrounding the concept of disutility of labor that must be addressed. Much of this confusion is the result of incorporating psychological elements into the disutility of labor, such that it is these psychological elements that become its defining feature. Indeed, Greaves (1974, 34–35), in his glossary for *Human Action*, defines the disutility of labor as “the discomfort, uneasiness, inconvenience or pain inherent in human effort. Because of this quality men regard labor as a burden and prefer leisure to toil or labor.”

It is not difficult to see why Greaves would define the disutility of labor in such a way, as Mises himself writes,

The expenditure of labor is deemed painful. Not to work is considered a state of affairs more satisfactory than working. Leisure is, other things being equal, preferred to travail. People work only when they value the return of labor higher than the decrease in satisfaction brought about by the curtailment of leisure. To work involves disutility. (1998, 131–32)

There are a number of passages in *Human Action* and *Socialism* in which the way Mises refers to the disutility of labor makes it seem as though it is a psychological phenomenon, an obstacle to be “overcome,” rather than merely the opportunity cost of engaging in labor. For example, Mises (1998, 584–85) lists a number of reasons why someone might choose to forgo the enjoyment of leisure, such as strength of mind and body, to serve God, and to avoid greater mischief, and states that, in these cases, “the disutility of labor in itself—and not its product—satisfies.”

Besides being utterly confusing, as Mises’ statement ultimately suggests that “disutility” can generate something like “utility,” i.e. that it can satisfy wants, it would imply that the disutility of labor is not the utility of leisure forgone, but the pain, discomfort, or unpleasantness of engaging in labor. Although Mises (1998, 585–89) attempts to distinguish the disutility of labor from the psychological phenomena of the “joy” and “tedium” of labor, in so doing he identifies the disutility of labor with unpleasantness, rather than strictly

the opportunity cost of forgone leisure. One of the sources from which the joy of labor springs is that, after having completed a task, a worker “enjoys the feeling of having successfully overcome all the toil and trouble involved. He is happy in being rid of something difficult, unpleasant, and painful, in being relieved for a certain time of the disutility of labor” (Mises, 1998, 586). Mises (1981) also writes of labor directly satisfying the human need of “stirring,” which is “a physical and mental need.” But it only does this to a certain point, beyond which labor becomes toil.<sup>3</sup>

Likewise, Rothbard (2009) includes the disagreeable conditions under which labor is performed as part of what constitutes the disutility of labor:

In some cases, labor itself may be positively disagreeable, not only because of the leisure forgone, but also because of specific conditions attached to the particular labor that the actor finds disagreeable. In these cases, the marginal disutility of labor includes both the disutility due to these conditions and the disutility due to leisure forgone.

Thus, these two conceptions of the disutility of labor—(Conception 1) as the forgone utility of leisure and (Conception 2) the unpleasantness, discomfort, or pain involved in laboring—need not be considered mutually exclusive, and the latter can be classified as a subset of the former. That is, if part of the utility derived from leisure is the avoidance of the unpleasantness of labor, then that would be utility forgone when one engages in labor.

### 3. WHY THE DISUTILITY OF LABOR ASSUMPTION IS UNNECESSARY

Conception 2 of the disutility of labor, even though considered by Greaves to be the essence of the concept, is superfluous in terms of doing the work that Mises and Rothbard want the empirical assumption to accomplish. That is, even if labor carried with it no unpleasantness, pain, or discomfort, it would still involve the forgone utility of forgone leisure. Furthermore, Conception 2 also

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<sup>3</sup> The only graph Mises (1981, 145) ever uses in his texts is to illustrate the relationship between the time spent in labor and its direct satisfaction or dissatisfaction.

seems to be the “empirical” part of the “empirical assumption” of disutility of labor that we can imagine being different. Contrary to what Mises and Rothbard argue, we cannot without contradiction conceive of a world in which Conception 1 is false, i.e., a world in which engaging in labor has no opportunity cost. Hence, it is not really an additional assumption that supplements otherwise *a priori* praxeological theory, but rather an aspect of it that is already implied in the concept or axiom of action. Any specific course of action, be it classified as labor or leisure, has opportunity costs, as the choice of one action presupposes alternatives that must be forgone.

What ought to be apparent by this point in our discussion is the awkwardness of the phrase “disutility of labor,” if what is meant by it is the opportunity cost of labor and if one of the purposes of the assumption is to explain why individuals do not engage in all of the labor they are physically capable of performing. It is unclear what is unique about labor in this regard. If, as Rothbard (1957, 316) states, the proposition that leisure is a good is so generally true as to be self-evident, why do we not resort to an assumption about the “disutility of leisure” to explain why individuals ever start to labor in the first place? Indeed, why not assume that every action involves “disutility” to explain why people ever stop doing anything?

The reason is that we already have concepts to explain these things: diminishing marginal utility and opportunity cost. The fact that people do not devote themselves fully to labor can also be explained through these concepts. There are diminishing marginal returns to labor: the first unit of time allocated to labor will be to satisfy the highest ranked end, the next unit to the second most highly ranked end, et cetera. Using one’s body for labor incurs an opportunity cost—one’s body cannot be used to serve other ends one may have. Thus, as individuals engage in further labor, the utility derived from the fruits of their labor diminishes, while the marginal utility of ends forgone remains the same. Eventually, the marginal utility of another unit of labor will be less than the marginal utility of a unit of leisure, and one will cease to labor.

But is that not the work that the assumption that “leisure is a consumer good” is doing, that is, assuming that labor has an opportunity cost? We argue that such an assumption is superfluous, and it is already implied in the definition of labor. Recall that labor is “the



employment of the physiological functions and manifestations of human life as a means.” Thus, people labor so that they can consume. This raises the question, though neither Mises nor Rothbard address it specifically, of what, if any, the relationship between leisure and consumption is.<sup>4</sup> Only if it is the case that there is no necessary relationship and one can engage in all types of consumption he or she desires without ceasing to labor, could it be possible at all that individuals would supply all the labor of which they are physically capable of providing. Only under such conditions would there be no opportunity cost, in terms of forgone consumption, to engaging in labor. But the action axiom implies that the use of the human body is scarce and one must prioritize among ends. In order to use one’s body to enjoy consumer goods, leisure—the employment of the physiological functions and manifestations of human life as an end—is a complementary good. This is why we conclude that a world in which leisure is not a consumer good is inconceivable, unless it is a world in which no consumption takes place, but this raises the question of why anyone would choose to engage in labor in the first place, since the ultimate purpose of labor is consumption.

The reason why people engage in labor is so that they can consume and if they are to consume, they must refrain from labor. Thus, eventually ceasing from labor is already implied in the concept of labor itself, that is, when labor is understood as a means to attain ends, notably some form of consumption. The end is thus not the labor itself, but rather the enjoyment of its ultimate attainment, which precludes labor. If it were the case that individuals never stopped engaging in labor, then the physical acts they are performing can no longer be considered labor (which is a means), but ought to be considered ends in themselves.

Even if it were considered as an end in itself, labor would obviously have utility or value. And yet, it still would have opportunity costs. Hence, even if it were an end in itself, we would at some point stop laboring. The extra assumption of disutility is not required. Nor is it required for labor as a means. In fact, even simply by virtue of

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<sup>4</sup> Rothbard (2009, 46) states, “Leisure is the amount of time not spent in labor, and play may be considered as one of the forms that leisure may take in yielding satisfaction.” This implies that there is a mutual exclusivity between labor and at least some types of consumption.

being a means labor should be regarded as having utility instead of disutility. Just like any other means it derives its value from that of the ends it serves to attain.

A world in which labor carried with it no unpleasantness, pain, or discomfort is conceivable without contradiction. But it should be clear why such a world would not be one in which individuals supply all of the labor they are physically capable of performing. Labor would still involve the opportunity cost of various types of consumption forgone. But likewise, any specific type of consumption carries with it the opportunity cost of another type of consumption. Would anybody therefore argue that there is disutility of consumption?

#### 4. CONCLUSION

We have attempted to clarify the meaning of the phrase “disutility of labor” and to highlight the confusions its use has caused. It is most often identified with unpleasantness in performing labor (Conception 2), which may affect the supply of labor in various occupations and therefore the respective height of monetary wages, but such a conception is irrelevant in regards to whether individuals will ever cease to labor. If all that is meant by it is that labor has an opportunity cost (Conception 1)—that the use of one’s body for labor comes at the cost of not using one’s body for consumption—then there is nothing exceptional about human effort compared to any other scarce resource that has alternative uses. Just as for any consumer good or productive factor, there is no need to resort to a concept of “disutility” in order to explain why people stop consuming a good or employing a factor before they have exhausted their full stock. Rather, they consume units of a good and employ productive factors as long as the expected marginal benefits are greater than the marginal costs. The use of their bodies for labor and leisure is subject to the same reasoning.

This has implications for the applied analysis of consumer behavior. An unstated assumption of the idea that people would engage in labor as much as they are physically capable if they did not directly value leisure is that the process of consuming takes place more or less instantaneously. However, just as production takes

place over time, so does consumption, and just as the time involved in a production process is relevant to its value, the time needed to consume various goods is relevant to consumers' valuation of those goods. Labor supply may be more sensitive to changes in the quality of time-intensive consumer goods than it is to changes in labor productivity or how unpleasant work is.<sup>5</sup> Appreciating the role time plays in consumer decision-making may lead to a more informed analysis of a variety of observed phenomena, from changes in workforce participation to changes in fertility rates.

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<sup>5</sup> See Becker (1965) for a discussion of the allocation of time between earnings-generating and other activities.

## THE DISUTILITY OF LABOR: A COMMENT ON FEGLEY AND ISRAEL

JOSEPH T. SALERNO\*

JEL CLASSIFICATION: D01, J01, J20

**ABSTRACT:** Fegley and Israel (2020) have advanced the thesis that the status of leisure as a consumer good is an immediate inference from the action axiom rather than an empirical postulate as maintained by Mises and Rothbard. This comment argues that we can easily imagine a world in which leisure does *not* represent the opportunity cost of labor, and that Mises and Rothbard have been misconstrued. Additionally, I am strongly unsympathetic to the mode of argument they use in making their case, which is to directly challenge well-established foundational concepts and relations of economic theory. This may only provoke arid quibbling over epistemology.

In their article, Tate Fegley and Karl-Friedrich Israel (2020) make two bold and sweeping claims. The first concerns the foundations of praxeology, the method of Austrian economics. Their second pertains to a different sphere altogether, that of “economic semantics” (Machlup 1967). Both spheres of inquiry are important in the development of economic theory, but it is crucial to maintain strict separation between them. Fegley and Israel (2020, 46) state their claims as follows:

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[1.] Leisure (the state of not engaging in labor) is a necessary complementary good for consuming other goods. As such, leisure's status as a consumer good is *a priori* true, not an empirical assumption. [2.] Furthermore, the concept of disutility of labor is not only unnecessary but also leads to confusion due to its being used in two different ways, and therefore ought to be discarded.

Unfortunately, the discussions of these two propositions are confusingly entwined throughout the article although they have no logical connection to one another. For the sake of conceptual clarity, I will analyze each proposition separately. I will begin with proposition 1, which is more important because it cuts to the heart of the praxeological method, which is the method of imaginary constructions, "the specific method of economics" (Mises [1949] 1998, 237).

Fegley and Israel contend that the proposition "leisure is a consumer good" is not an empirical postulate supplementing the action axiom. Rather, they argue, like the concepts of means and ends or uncertainty, it is an immediate inference of the axiom. This is tantamount to denying that a world can be conceived in which acting beings do not experience disutility of labor and, therefore, always expend their full capacity to work. This denial underlies their claim that labor always involves an inherent opportunity cost. As Fegley and Israel (2020, 51) state their argument:

Contrary to what Mises and Rothbard argue, we cannot without contradiction conceive of a world in which... engaging in labor has no opportunity cost. Hence, it is not really an additional assumption that supplements otherwise *a priori* praxeological theory, but rather an aspect of it that is already implied in the concept or axiom of action. Any specific course of action, be it classified as labor or leisure, has opportunity costs, as the choice of one action presupposes alternatives that must be forgone.

In fact, as I will argue, we can easily imagine a world in which leisure does *not* represent the opportunity cost of labor. However, the authors preempt the conception of such a world by a semantic sleight of hand. After initially defining leisure as "the absence of labor," Fegley and Israel (2020, 48) subtly change their definition a sentence later. They first cite Mises's definition of labor as "the employment of the physiological functions and manifestations of

human life as a means” (Mises [1949] 1998, 131). They then assert that leisure as “the absence of labor” can “alternatively” be defined as “the employment of the physiological functions and manifestations of human life as an end.” From this they infer that “leisure is not only the act of ‘doing nothing,’ but the use of one’s body for consumption, rather than production.” And voilà, leisure is always and everywhere a consumer good and, therefore, labor bears an intrinsic opportunity cost.

Fegley and Israel believe that they have demonstrated aprioristically that leisure is a consumer good and labor always incurs an opportunity cost in terms of foregone leisure. But they have done no such thing. They have stated two premises:

1. Leisure is the absence of labor.
2. Labor is a means to an end and requires the use of one’s body.

From these two premises they claim to have logically deduced that leisure is the use of one’s body as an end and, therefore, that there is a tradeoff between time devoted to production and time devoted to consumption. For this syllogism to hold true, however, other—empirical—postulates are required relating to the human body, whose functions, capacities, and limitations are a *datum* for economic theory and closed to praxeological inquiry. This was clearly spelled out by Mises ([1949] 1998, 11, 642):

The unconscious behavior of the bodily organs and cells is for the acting ego no less a datum than any other fact of the external world. Acting man must take into account all that goes on within his own body as well as other data.... Praxeology deals with human action as such in a general and universal way. It deals neither with the particular conditions of the environment in which man acts nor with the concrete content of the valuations which direct his actions. *For praxeology data are the bodily and psychological features of the acting men*, their desires and value judgments, and the theories, doctrines, and ideologies they develop in order to adjust themselves purposively to the conditions of their environment and thus to attain the ends they are aiming at. (emphasis added)

Mises (2003, 16) specifically argued that praxeology may assume as a datum a human body with radically different features, limitations, and capabilities than exist in reality. For example, it may assume that “men lacked the possibility of understanding one another by means

of symbols" or that they were "immortal and eternally young" and therefore "indifferent in every respect to the passage of time." Indeed, according to Mises (15–16), it is possible to construct "a universal praxeology so general that its system would embrace not only all the patterns of action in the world that we actually encounter, but also patterns of action in worlds whose conditions are purely imaginary and do not correspond to any experience. The axioms of the theory could conceivably be framed in such universal terms as to embrace these and all other possibilities." For Mises, the economist does not undertake such a project "because conditions that do not correspond to those we encounter in our action interest us only in so far as thinking through their implications in imaginary constructions enables us to further our knowledge of action under given conditions" (16).

This leads us to the question of whether we can imagine a world in which the physical bodies or psychological makeup of acting beings is such that they experience no disutility of labor? If the answer to this is yes, then Fegley and Israel have failed to prove their thesis that "leisure's status as a consumer good is *a priori* true, not an empirical assumption."

Let us first imagine a world in which all persons fully exhaust their capacity for productive labor after a certain period of time. They then enter a state of leisure, i.e., "absence of labor," during which time they engage in what Mises called "recreation and restoration of the capacity to work." We assume that during this time they are physically able to pursue various consumption goals. We further assume that every person's consumption goals consistent with his stocks of goods and intertemporal consumption preferences are achievable within the state of leisure. Given these empirical assumptions—none of which contradict the action axiom—labor does *not* have an opportunity cost or disutility in terms of consumption foregone. The amount of leisure time is not chosen by the actor but imposed on him by the physiological requirements of his body and is superabundant with respect to his consumption goals. Leisure therefore has no value as a complementary input to the enjoyment of consumer goods. In the real world, these assumptions approximate the behavior of the "workaholic." For example, the tech billionaire works to the point of exhaustion of his physical or mental labor capacity and then enjoys driving his Lamborghini home to consume a sumptuous meal prepared by a

first-class private chef, after which he watches a movie in his private screening room, contemplates the fine art in his gallery, buys stuff online, and gets a few hours' sleep.

Another hypothetical world in which leisure is not a consumer good is one in which the human body is imagined to have the capacity to process all conceivable consumption enjoyments while simultaneously expending maximum productive effort. In this imaginary construct "the state of not engaging in labor" is not required to achieve consumption goals and therefore labor has no opportunity cost. This has a parallel in our world with the consummate multi-tasker: the venture capitalist who can negotiate and close deals while sipping a martini and smoking a cigar on his yacht or the office worker who eats, uses social media, and gambles online while working hard in her cubicle. Actually, there are people who work twenty-four hours per day, seven days per week while managing to consume. A quick search of the internet reveals dozens and dozens of pornographic subscription websites on which people can literally be viewed "24/7" engaging in all kinds of activities via webcams strategically placed throughout their living spaces.

If one does not fancy these constructions, one can conjure up fictional worlds in which action is possible even further removed from our own. We can assume that the productive capabilities of the actors' bodies are catalyzed by daylight while their capacity to consume lies dormant until the sun sets. Alternatively, it is conceivable all people choose to only work from sun rise to sunset and only consume after dark for religious, cultural, or psychological reasons. Letting our imagination range further afield, we may even suppose that an acting ego has control of two physical bodies: one specifically equipped solely for labor and the other solely for consumption activities.

It is evident that none of these imaginary constructions preclude the possibility of action, of the purposive use of means to attain ends. In all of them, there exist—that is, we cannot contemplate them without also thinking of—the means-end distinction, scarcity, uncertainty, the value scale, choice, and the other fundamental concepts and laws of human action.<sup>1</sup> Yet in none of these

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<sup>1</sup> As Mises (2003, 15) pointed out, "we are quite incapable of thinking of this fundamental category [of action] and the system deduced from it without also thinking, at the same time, of the universal prerequisites of human action. For example,



constructions is leisure valued by the actor as a final consumer good or as a “complementary good for consuming other goods.” Therefore, “leisure’s status as a consumer good” is not an *a priori* inference from action but is established by empirical insight into the concrete conditions of action. Fegley and Israel (2020, 52) seem to glimpse the truth that the value of leisure depends on the assumption of definite empirical conditions:

Only if it is the case that there is no necessary relationship and one can engage in all types of consumption he or she desires without ceasing to labor, could it be possible at all that individuals would supply all the labor of which they are physically capable of providing. Only under such conditions would there be no opportunity cost, in terms of forgone consumption, to engaging in labor.

Unfortunately, at this critical point, the authors seem to experience a failure of imagination and stop short of spelling out the exact conditions under which labor would have “no opportunity cost in terms of forgone consumption” (52). Instead they resort to an assertion of what they have set out to prove, “the action axiom implies that the use of the human body is scarce and one must prioritize among ends.” But the action axiom does not imply that the human body is scarce in all its capacities and functions, no more than it implies that all kinds of land are scarce. The action axiom implies only that means are scarce in relation to ends. Exactly what those means are is a matter for empirical investigation. We can certainly conceive a world in which actors’ bodies are superabundant in relation to land. Imagine actors who have the ability to instantly replicate their bodies and, therefore, their capacity to work and consume, an endless number of times. However, assuming land and capital are scarce, doing so would drive the marginal product of labor to zero or below and, at this point, additional bodies would not increase income or consumption. In this world, the value of an extra human body would therefore be zero. Although the human body would not be scarce, actors would “still have to prioritize among ends,” because

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we are unable to grasp the concept of economic action and of economy without implying in our thought the concept of economic quantity relations and the concept of an economic good.”

the scarcity of natural resources and capital goods would limit the supplies of consumer goods. Hence, the potentialities and limits of the human body are particular conditions of action that can only be learned by experience, not praxeological reasoning.

It actually is not necessary to construct fictional worlds to criticize Fegley and Israel's argument, although it is a useful heuristic exercise to vividly differentiate between praxeological theory and the concrete data that ground such reasoning in the reality of our world. We can also challenge their argument by citing a theorem widely accepted by Austrian economists which assumes in its derivation a perfectly inelastic general supply of labor, i.e., the absence of the disutility of labor. The authors can then be called upon to demonstrate where the theorem fails because it is based on an assumption that contradicts the action axiom. One such theorem is that net saving in the economy "lengthens" the structure of production and raises the real wage rates of laborers. This theorem was given its most extensive development by Friedrich Hayek ([1935] 2008, 223–52) and Murray Rothbard ([1962, 1970] 2009, 517–43), whose analyses were very similar.

Hayek ([1935] 2008, 225–27) began his analysis from a "stationary state" in which the supplies of all resources are fixed and fully employed. His purpose was to show that an increased "output of consumers' goods from a given quantity of original means of production" results from "transition to more capitalistic methods of production." Hayek ([1935] 2008, 237–39) then demonstrated how a change in "the volume of voluntary saving" causes an increase in "the average length of the roundabout processes of production." Once the transition to the lengthened structure of production has been completed, a new equilibrium ensues in which "the amount of original means of production [i.e., land and labor] used *has remained the same*" while the quantities of capital and consumer goods have increased (emphasis added). The prices of consumer goods therefore fall relative to the prices of the original factors, particularly labor, and real wages accordingly increase. But if the quantity of labor "has remained the same" in the new equilibrium despite higher real wage rates, then it means that Hayek has deduced his theorem with the assumption of a perfectly inelastic general supply curve for labor and hence has assumed that leisure is not a consumer good. In discussing

the “effect of net investment” on the economy, Rothbard makes the same assumption and reaches the same conclusion as Hayek.<sup>2</sup>

Now if Hayek and Rothbard’s theorem is based on an assumption that contradicts the action axiom, then it should conflict with other theorems in the chain of praxeological deductions and it could readily be proven false. The same could be said of the opportunity cost doctrine itself, which Fegley and Israel make extensive use of. In a famous article, Lionel Robbins ([1930] 1997, 72) articulated the crucial difference in assumptions underlying the controversy that took place during the period between 1890 and 1910 over the question: “Are all costs ultimately resolvable into foregone products, or are labor-pain and abstinence to be regarded as ultimate?” On one side of this “battle of giants” were arrayed the opportunity-cost theorists led by Böhm-Bawerk, Wieser, Wicksteed, and Davenport; on the other, stood the British economists Marshall and Edgeworth, who upheld the real-cost doctrine. Robbins perceptively pointed out that the debate turned on the different forms of the supply functions for labor and capital assumed by each side. Böhm-Bawerk et al. made the simplifying empirical assumption that labor and capital supply curves were perfectly inelastic, while Marshall and Edgeworth, in a quest for greater “realism,” assumed upward-sloping supply curves. As it turned out, it was easier to initially derive the opportunity cost doctrine with the aid of the simplified assumptions and then apply the doctrine to the realistic case of elastic supply curves.

If Fegley and Israel are truly interested in proving the *a priori* nature of the proposition that leisure is a consumer good, I suggest that they show the errors and contradictions in the praxeological theorems deduced using the antithetical proposition. Such an endeavor is potentially much more useful to the development of economic theory than advancing yet another hair-splitting argument about the epistemological status of the fundamental concepts and relationships from which the theory is deduced.

Let me now make a few brief remarks regarding Fegley and Israel’s contention that the concept of the disutility of labor is “not

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<sup>2</sup> Indeed, Rothbard ([1962, 1970] 2009, 453–507, 572–78) does not introduce upward-sloping general supply curves for labor in his discussion of net investment or his analysis of general factor pricing.

only unnecessary but also leads to confusion due to its being used in two different ways.” The authors cite the usage of the term by Percy Greaves, Mises, and Rothbard. I will focus on their criticisms of the latter two. The authors’ main critique of Mises is that in several passages he implies that “the disutility of labor is...a psychological phenomenon, an obstacle to be ‘overcome,’ rather than merely the opportunity cost of engaging in labor” (Fegley and Israel 2020, 49).

In one passage Mises ([1949] 1998, 585) states, “the disutility of labor in itself—not its product—satisfies.” The authors find this statement “utterly confusing” and interpret it as meaning that “the disutility of labor is not the utility of leisure foregone, but the pain, discomfort, or unpleasantness of engaging in labor.” But Mises makes this statement in his discussion of introversive labor, in which labor is undertaken as an end in itself. For Mises (484–85), introversive labor qualifies “as consumption,” and he suggests three motives for it. Let us take the example of a tennis player to illustrate these motives. First, he may play tennis with friends on weekends to maintain health and vitality and strengthen his body. Second, he may play tennis with disadvantaged children in order to serve God in compliance with his religious duties and his quest for eternal bliss. And, third, he may absorb himself in playing tennis to forget distressing events, ward off depression, or lift his spirits. In all of these cases it is the very disutility of labor, the very sacrificing of leisure, which serves as its own reward. Furthermore, Mises views leisure along an intensive as well as an extensive margin. Thus the more intense the labor, the greater is the sacrifice of leisure and, hence, the greater is the reward.<sup>3</sup> In Mises’s example of the mountain climber: “The toil of climbing...involves disutility of labor. But it is precisely overcoming the disutility of labor that satisfies him. A less exerting [i.e., less leisurely] ascent would not please him better but less.”

Now, in contrast to Fegley and Israel (2020, 49), I do not find Mises’s usage of the term “disutility of labor” at all confusing in this context. Nor do I share the authors’ confusion concerning the implication that “‘disutility’ can generate something like ‘utility’”

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<sup>3</sup> With respect to “extroversive” labor in exchange for wages, the disutility of labor can be reduced on the intensive margin by what economists refer to as “shirking” or what used to be called in the vernacular “loafing” or “goofing off” on the job.

(ibid.). All disutility generates utility; otherwise it would not be voluntarily incurred by purposeful beings. The disutility of “extroversive” labor provided on the market generates the utility of a market wage rate, just as the disutility of playing tennis with less fortunate children produces the utility of complying with one’s religious duties. I also think that the authors’ concern about the psychological connotation of Mises’s term “overcome” with respect to disutility of labor is misplaced. In the very first sentence of his discussion of the topic, Mises ([1949] 1998, 584) uses the phrase “overcome the disutility of labor” followed immediately by the parenthetical clarification, “forego the enjoyment of leisure.”

Fegley and Israel (2020, 49–50) also find fault with Mises’s discussion of “the joy and tedium of labor.” They seize on the following statement: “Having completed a task the worker enjoys the feeling of having successfully overcome all the toil and trouble involved. He is happy in being rid of something difficult, unpleasant, and painful, in being relieved for a certain time of the disutility of labor” (Mises [1949] 1998, 586). They claim that Mises here “identifies the disutility of labor with unpleasantness, rather than strictly the opportunity cost of forgone leisure.” Their claim fails, however, because Mises is here referring to “special emotional phenomena [that] sometimes appear, feelings of joy or tedium, accompanying the execution of certain kinds of labor.” Mises is careful to specify that such feelings “are in a domain other than the disutility of labor... [and] therefore can neither alleviate nor remove the disutility of labor.” In other words, the disutility of labor lies in the praxeological realm and therefore influences choice and action. The joy and tedium of labor are emotional *reactions* to choices made and, as an *ex post* factor, they influence neither the choice of whether to incur the disutility of labor nor the value of the product or disutility of labor. Mises ([1949] 1998, 588) is clear and emphatic on this point:

The fact that the tedium of labor is substituted for the joy of labor [by ideological influences] affects the valuation neither of the disutility of labor nor of the produce of labor. Both the demand for labor and the supply of labor remain unchanged.... What is altered is merely the worker’s emotional attitude.

Whatever one thinks of Mises’s psychological conception of the joy and tedium of labor, Mises leaves no doubt that it is completely

distinct from the praxeological conception of labor's disutility and that the only "pain" associated with the latter conception is the loss of satisfaction attending the sacrifice of a given quantity of leisure. For Mises "disutility" is purely a convenient accounting term. Every product of an act of labor is credited with a gain in utility on the revenue account of the individual's "psychic" income statement and debited *either* with a loss of utility (opportunity cost of leisure forgone) *or* with the incurring of disutility (opportunity cost of leisure forgone) on the cost account. Psychic profit (or loss) is the same in either case. Because forgoing leisure is a (potential) opportunity cost of every act of labor, it is expedient to denote it with a general term and treat it positively as a cost item incurred when discussing the overall labor-leisure tradeoff. On the other hand, when we are conceiving of an actor as choosing among different employments, it is easier to debit psychic cost with the lost utility of the specific forgone money income and positive nonpecuniary components (shorter commute, more aesthetic work space, etc.) from the next best employment opportunity. If there are relatively disagreeable psychic components attaching to a job such as the forgone utility of healthful air and of freedom from perceived risk of being buried alive, which is experienced by subterranean miners, then it is perfectly correct to combine these specific opportunity costs with forgone leisure and treat them as part of the disutility of labor. The authors' criticism of Rothbard for including "the disagreeable conditions under which labor is performed as part of what constitutes the disutility of labor" is thus groundless (Fegley and Israel 2020, 50).

I do not think that Fegley and Israel have proven their thesis that the status of leisure as a consumer good is an immediate inference from the action axiom rather than an empirical postulate as maintained by Mises and Rothbard. More important, I am strongly unsympathetic to the mode of argument they use in making their case, which is to directly challenge well-established foundational concepts and relations of economic theory. This is unlikely to be of much interest to working Austrian economists and, at best, will provoke arid quibbling over epistemology. A much more effective and fruitful approach would be to identify several economic theorems much further down the chain of praxeological deductions and demonstrate that they are false because they crucially depend

upon an assumption that contradicts the action axiom, namely, that leisure is not a valuable consumer good. Indeed, one need not go searching for such false and contradictory theorems; if they exist, they will inevitably come to light during the work of applying praxeological theorems to explaining real-world economic events. This is the way that praxeological theory progresses. Regarding the authors' subsidiary thesis that the concept of the disutility of labor should be discarded as unnecessary and because it is used by Mises and Rothbard in two different senses, I find no merit in this contention. Mises and Rothbard are crystal clear in what they mean by the concept and, although not absolutely necessary, the concept is expedient for certain problems in economic theory.

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# INCOME AND SUBSTITUTION EFFECTS: A REJOINDER TO PROFESSOR JOSEPH SALERNO

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JEL CLASSIFICATION: B53, D11

**ABSTRACT:** Professor Joseph Salerno (2019) has commented on my recent reconstruction of the income effect from a causal-realist perspective (Israel, 2018b). In this rejoinder, I clarify my position and show that the main points of criticism in Salerno's response are unfounded. In particular, I show that my argument does not involve a claim of greater "realism of assumptions" and it by no means contradicts the law of demand. Moreover, I work out in more detail the similarities and differences of my approach to the standard neoclassical decomposition of income and substitution effects. I show that my approach is closer to the Slutsky decomposition as opposed to the Hicks decomposition.

## 1. INTRODUCTION

Starting from Professor Salerno's (2018) refutation of the income effect, I have recently argued that the income effect should not be discarded. Rather, the neoclassical theory of the income effect can

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be reconstructed along causal-realist lines (Israel, 2018b). Salerno (2019) has honored my paper with a critique, which provides a welcome opportunity to clarify my position.

This rejoinder is structured as follows. Section 2 contains a brief exposition of the standard microeconomic analysis of income and substitution effects. This will highlight the backdrop against which our debate arose. Section 3 contains a discussion of the causal-realist point of view on demand analysis. Here I discuss the assumptions underlying the imaginary construct of the demand curve and show to what extent the causal-realist approach differs from standard neoclassical analysis. In section 4, I proceed to clarify the meaning of realism in economic analysis and argue that my proposed solution by no means runs into a contradiction with the infamous law of demand, as Salerno claims. I conclude in section 5.

## 2. THE STANDARD MICROECONOMIC ANALYSIS OF INCOME AND SUBSTITUTION EFFECTS

In modern neoclassical microeconomics consumer behavior is typically modeled by means of mathematical utility functions and budget constraints. In the standard scenario a consumer chooses between quantities of different goods,  $x_1, x_2, \dots, x_n$ , as a function of their unit prices,  $p_1, p_2, \dots, p_n$  and the individual's available income or budget,  $\bar{y}$ . Given the utility function,  $u$ , consumer choice is thus described as a maximization problem with a side constraint:

$$\max_{x_1, x_2, \dots, x_n} u(x_1, x_2, \dots, x_n) \text{ given that: } \sum_{i=1}^n p_i x_i \leq \bar{y}.$$

Solving this maximization problem yields the so-called Marshallian demand functions (also called *primal demand*) for the various goods:

$$x_k^M(p_1, p_2, \dots, p_n, \bar{y}) \quad \forall k \in [1, n].$$

In the above optimization problem, the consumer chooses the optimal bundle of goods, that is, the bundle that maximizes the utility function, under the constraint that monetary expenses do not exceed the available budget.

An alternative way of formalizing consumer choice is the following:

$$\min_{x_1, x_2, \dots, x_n} \sum_{i=1}^n p_i x_i \text{ given that: } u(x_1, x_2, \dots, x_n) = \bar{u},$$

where  $\bar{u}$  is a given level of want satisfaction or utility. In this version the optimal bundle that the consumer chooses corresponds to the cheapest bundle that yields this given level of utility. Instead of maximizing utility given the costs (i.e. the budget), the consumer is minimizing costs given a certain level of utility. The solution to this minimization problem yields the so-called Hicksian demand functions (also called *dual demand*):

$$x_i^H(p_1, p_2, \dots, p_n, \bar{u}) \quad \forall i \in [1, n].$$

The conceptual difference between the Marshallian and the Hicksian demand functions is straightforward. Marshallian demand keeps nominal income  $\bar{y}$  (i.e. the budget) constant, whereas Hicksian demand keeps real income  $\bar{u}$  (i.e. the level of want satisfaction or utility) constant. As a result, the Marshallian demand captures both income and substitution effects, whereas Hicksian demand only captures the substitution effect. To be more precise, it captures the *Hicks-substitution effect* as opposed to the *Slutsky-substitution effect*. The latter can be analyzed on the basis of the Marshallian demand function, if the initial nominal budget is adjusted for any given price change, such that the optimal bundle, which would have been chosen at the initial price and the initial budget, just remains affordable at the new price and the adjusted budget. This yields the so-called income-compensated Marshallian demand function.<sup>1</sup>

Let us consider a simple example to push the standard analysis closer to where we want to go with it. We consider a case with two goods, one of which is money. This has some analytical convenience as the money price of money is always 1, that is, one US dollar costs one US dollar and one euro costs one euro. In standard terminology, such a good is referred to as the numéraire good. It is also convenient to include money in the two goods example, because it makes the example somewhat more general. The demand for money can be seen as a placeholder for all the other goods that the

<sup>1</sup> A detailed and very accessible exposition can be found in Varian (2010, chapter 8). We will illustrate the difference below.

consumer might want to buy, while we focus on the demand for one specific good. Let  $x_1$  be that specific good. Its unit price is  $p_1$ . The other good,  $x_2$ , is money. Hence,  $p_2 = 1$ . We assume a standard utility function of the Cobb-Douglas form:  $u(x_1, x_2) = x_1^\alpha x_2^{1-\alpha}$ . For the sake of simplicity, let us say that  $\alpha = 0.5$ . The Marshallian optimization problem is thus:

$$\max_{x_1, x_2} \sqrt{x_1 x_2} \text{ given that: } p_1 x_1 + x_2 \leq \bar{y}.$$

Solving the optimization problem yields the following Marshallian demand functions:<sup>2</sup>

$$x_1^M(p_1, \bar{y}) = \frac{\bar{y}}{2p_1}; x_2^M(\bar{y}) = \frac{\bar{y}}{2}.$$

Assume that the budget is  $\bar{y} = 100$  and  $p_1 = 5$ . The quantities demanded would be  $x_1^M(5, 100) = 10$  and  $x_2^M(100) = 50$ . The attained level of utility is  $u(10, 50) = \sqrt{500}$ .

In contrast, the Hicksian optimization problem is:

$$\min_{x_1, x_2} p_1 x_1 + x_2 \text{ given that: } u(x_1, x_2) = \sqrt{x_1 x_2} = \bar{u}.$$

Solving the optimization problem yields the following Hicksian demand function:<sup>3</sup>

$$x_1^H(p_1, \bar{u}) = \frac{\bar{u}}{\sqrt{p_1}}; x_2^H(p_1, \bar{u}) = \sqrt{p_1} \bar{u}.$$

For the same level of utility as attained in the Marshallian example,  $\bar{u} = \sqrt{500}$ , and the same price,  $p_1 = 5$ , we obtain exactly the same quantities demanded:  $x_1^H(5, \sqrt{500}) = 10$  and  $x_2^H(5, \sqrt{500}) = 50$ . However, for any other price  $p_1$ , given the budget  $\bar{y} = 100$  in the Marshallian case and given the utility

<sup>2</sup> The Cobb-Douglas utility function leads to the particularity that the demand for one good does not depend on the price of the other. Moreover, in our example, the price of  $x_2$  does not change, so that the demand for  $x_2$  does only depend on the available budget. We would interpret that demand as a reservation demand for money (Rothbard 2009, 756): in this case, half of the available budget will be kept ( $0.5\bar{y}$ ).

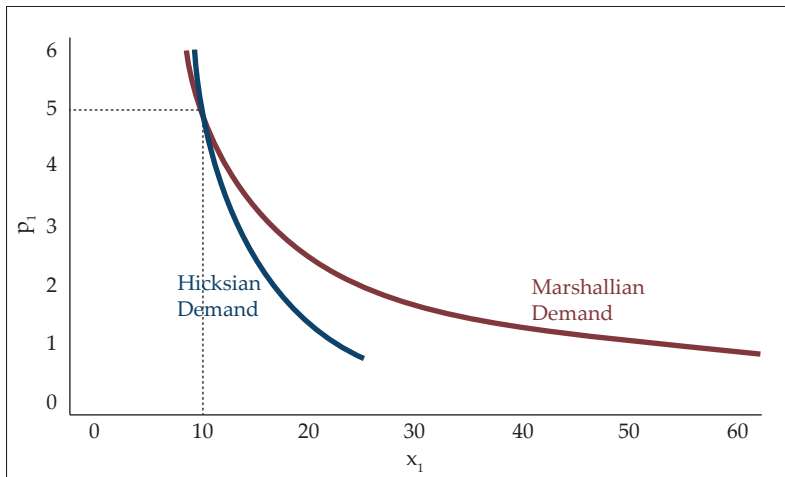
<sup>3</sup> In the Hicksian case, the demand for the numéraire good does depend on the price of the other good, because it is a type of income-compensated demand function.

level  $\bar{u} = \sqrt{500}$  in the Hicksian case, the quantities demanded of  $x_1$  are different:

$$x_1^M(p_1) = \frac{50}{p_1} ; x_1^H(p_1) = \sqrt{\frac{500}{p_1}}.$$

The two functions are plotted in Figure 1.

**Figure 1. The uncompensated Marshallian demand curve and the compensated Hicksian demand curve**

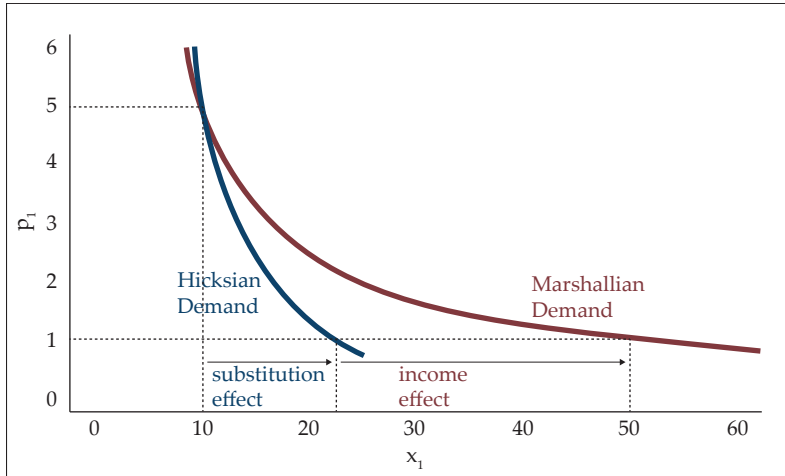


Let us now consider the effect of a price change from  $p_1 = 5$  to  $p_1 = 1$ . The Marshallian demand at the new price is  $x_1^M(1) = 50$  and the Hicksian demand is  $x_1^H(1) = \sqrt{500} \approx 22.4$ , which is much smaller. This is because *Hicksian demand only captures the Hicks-substitution effect* (in this case:  $\Delta x_1^{HS} = x_1^H(1) - x_1^H(5) \approx 12.4$ ) and *not the income effect*. Marshallian demand captures both. The income effect of the price drop is positive because the good is normal (and not inferior).<sup>4</sup> The Hicks-income effect in this example is thus  $\Delta x_1^{HI} = x_1^M(1) - x_1^H(1) \approx 27.6$ . The overall effect of the price drop, as captured by the uncompensated Marshallian

<sup>4</sup> Cobb-Douglas utility functions always lead to normal goods.

demand function, is the sum of the substitution and income effects:  $\Delta x_1 = x_1^M(1) - x_1^M(5) = \Delta x_1^{HI} + \Delta x_1^{HS} = 40$ . Figure 2 illustrates the example.

**Figure 2. The Hicks-substitution and income effects**



The second standard version of distinguishing substitution and income effects is based on the income-compensated Marshallian demand function (this is the Slutsky approach). It is constructed in the following way. We take the same point of departure, namely,  $\bar{y} = 100$  and  $p_1 = 5$ . Marshallian demand is  $x_1^M(5, 100) = 10$ . This means that the consumer buys 10 units of good  $x_1$  and keeps 50 money units in the cash balance. Any price change will now be compensated with respect to this reference bundle, in such a way that the consumer is able to acquire exactly the same bundle ( $x_1 = 10, x_2 = 50$ ). If the price drops from  $p_1 = 5$  to  $p'_1 = 4$ , the consumer would need only 40 money units (instead of 50) to buy  $x_1 = 10$ . Hence, the compensated budget is  $\bar{y}^c = 90$  (instead of  $\bar{y} = 100$ ). In general, for any given price change,  $\Delta p_1 = p'_1 - 5$ , the compensated budget is  $\bar{y}^c = 100 + 10\Delta p_1$ . The compensated Marshallian demand curve at the new price  $p'_1$  is thus:

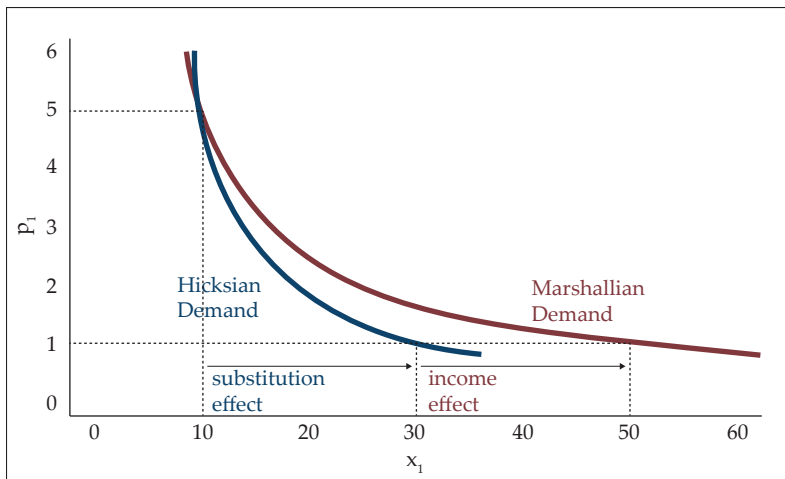
$$x_1^{Mc}(p'_1) = x_1^M(p'_1, \bar{y}^c) = \frac{100 + 10(p'_1 - 5)}{2p'_1} = \frac{25}{p'_1} + 5.$$

For the same price drop, from  $p_1 = 5$  to  $p'_1 = 1$ , the income-compensated Marshallian demand function yields a different result from the Hicksian demand function:

$$x_1^{M^c}(1) = 30 \text{ as opposed to } x_1^H(1) \approx 22.4.$$

The difference is that *Hicksian demand keeps the level of utility constant*, while *income-compensated Marshallian demand keeps the purchasing power constant*, in the sense that exactly the same bundle (and no unit more) could be bought at the new price with the compensated budget. The substitution effect on the basis of the income-compensated Marshallian demand function, the so-called Slutsky-substitution effect, is  $\Delta x_1^{SS} = x_1^{M^c}(1) - x_1^M(5) = 20$ . The corresponding income effect is of the same size:  $\Delta x_1^{SI} = x_1^M(1) - x_1^{M^c}(1) = 20$ . The overall effect is again  $\Delta x_1 = \Delta x_1^{SI} + \Delta x_1^{SS} = 40$ . Figure 3 illustrates the second way of decomposing income and substitution effects.

**Figure 3. The Slutsky-substitution and income effects**



This should suffice as a refresher on standard neoclassical microeconomics. In the next section, I will contrast these two approaches with causal-realist demand analysis.

### 3. THE DEMAND CURVE AND ITS UNDERLYING ASSUMPTIONS FROM A CAUSAL-REALIST PERSPECTIVE

Many economists in the Austrian or causal-realist tradition criticize standard microeconomics for its overly formal and mathematical style. This formal criticism is rooted in a number of conceptual disagreements. Indeed, how useful is it to describe consumer preferences by means of continuous and differentiable mathematical functions and assume infinitely divisible goods? At what point do standard microeconomists sneak in cardinal as opposed to ordinal utility? Is the theoretical concept of indifference helpful in explaining consumer choice?

For an economist who accepts Rothbard's (2011, 304–06; 2009, 302–11) criticism of indifference analysis, it is easy to see why the Hicks-substitution and income effects are likely to be rejected. They squarely rely on the concept of indifference as the level of utility is held constant in the derivation of the Hicksian demand function.<sup>5</sup> But regardless of our stance on indifference,<sup>6</sup> the rationale for the Hicksian decomposition is straightforward: A lower unit price for any good is always preferred to a higher unit price for that good, so the "level of utility" increases when a price decreases. In that sense real income increases. The problems concerning indifference arise when we keep the level of utility constant in order to compensate for this increase in real income.

In contrast, the Slutsky decomposition based on the distinction between uncompensated and compensated Marshallian demand does not in principle rely on the concept of indifference and can avoid any other queries that one might have with the idea of keeping the level of utility constant as the price for a good changes. In fact, it is precisely the Slutsky decomposition that is in many ways very similar, albeit not identical, to my proposed reconstruction of a causal-realist income or rather wealth effect (Israel 2018b).

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<sup>5</sup> See also Block (1980), Hülsmann (1999) and Hoppe (2005) for rebuttals to Nozick (1977) and Caplan (1999) on indifference analysis.

<sup>6</sup> See for example O'Neill (2010) for a detailed discussion and defense of the concept of indifference from an Austrian perspective.

Let us briefly revisit that reconstruction. I had been drawn to the subject by Professor Salerno's (2018) paper, in which he had argued that the income effect of neoclassical microeconomics is merely an "illusion" (p. 35) stemming from a misapprehension of demand curves. The structure of Salerno's argument was as follows:

1. In order to construct a demand curve, we have to hold constant a) the buyer's value scale; b) the prices of all other goods; c) the buyer's stock of money balances; and d) the purchasing power of money.
2. Given a price change along the constructed demand curve the quantity demanded of the good changes.
3. The change in demand must be interpreted entirely as a substitution effect, because the purchasing power of money is necessarily held constant when working with a given demand curve. Hence, there can be no "purchasing power effect" or in standard terminology "income effect."

The tension lies in the fact that there can be no price change along the demand curve, when at the same time the prices of all other goods (assumption b) and the purchasing power of money (assumption d) have to remain constant (Israel 2018a).

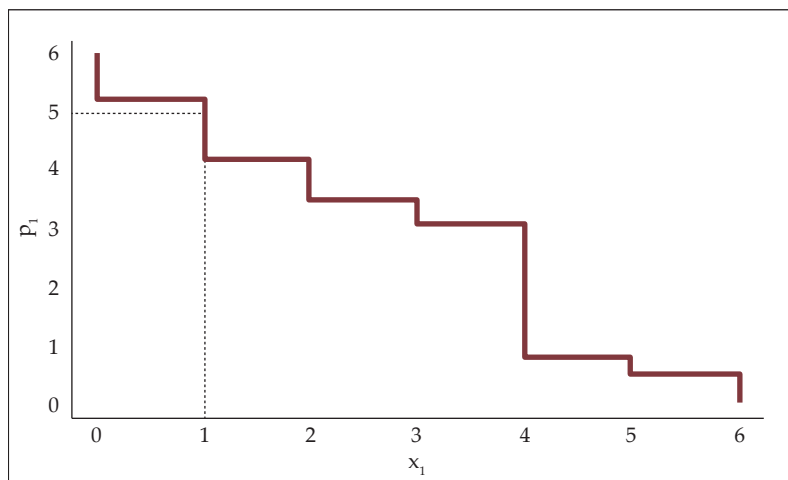
My suggested solution to resolve this tension is the following. A demand curve gives us the hypothetical quantities demanded of a good at different unit prices expressed in terms of money. Hence, the construction of a demand curve requires a value ranking of definite amounts of money kept (not spent) against definite quantities of the good in question acquired (bought). The subjective evaluation of money and the subjective evaluation of the good in question have to be presupposed. They have to be given and held constant for the analysis. Now, there is not much to be said about the subjective evaluation of the good to be bought. It is just what it is. However, when it comes to money, we can go a little further.

There are essentially two options: Money at a consumer's disposal can either be spent on the good in question (option 1), or not (option 2). The value judgments that come into play are again the subjective evaluation of the good in question (option 1), about which nothing else can be said, and the subjective evaluation of the next best alternative to spending money on the good in question (option 2).



This led me to argue that we have to hold constant the *opportunity cost of spending a given sum of money on the good in question*. And I went as far as to argue that “we cannot boil this assumption further down” (Israel 2018b, 382). But why should we, anyway? It suffices to construct a demand schedule for some good  $x_1$  given its unit price  $p_1$  as shown in Figure 4.<sup>7</sup>

**Figure 4. Discrete demand function**



And here we come to the first serious point of criticism raised by Salerno (2019). He does not seem to believe that my assumption is sufficient and laments my “strange reluctance to clarify the assumptions [I use] in deriving the demand curve.” This, he claims, “is inconsistent with causal-realist analysis” (p. 584). So, Salerno makes it seem as if it is an established causal-realist tradition to spell out the determinants of subjective value and the precise empirical conditions under which subjective evaluations remain constant. But is it really? Of course not. Subjective value or subjective preferences are always assumed as the starting point of the analysis. That is precisely the point of *subjectivism*.

<sup>7</sup> I abstain from a detailed exposition here. Any potential shortcomings in my earlier attempt can safely be ignored with a little goodwill. I proceed directly to the crucial issues that are disputed. Only notice that the demand schedule is a step function which is thought to reflect the discrete nature of human choice.

This is not to say that we cannot make additional assumptions when constructing a demand curve that illustrates the relationship between the money price per unit and the quantity demanded of a certain good by a given hypothetical consumer. We can invoke all kinds of assumptions about changing side constraints. Specifically, we can make assumptions about what exactly happens when we shift the unit price along the constructed demand curve. For example, we could assume that prices of other goods change in just the way Salerno (2019) wants in his comment on my critique. But to give another and somewhat unorthodox example: We could assume that for any price change of 1 money unit along the demand curve, the air temperature changes by 10 °F in the opposite direction, that is, if the price falls by 3 (2, 1) money units, the temperature increases by 30 (20, 10) °F and so on. If we were to analyze beer consumption as in the example of my initial article (Israel 2018b), this additional assumption would lead undoubtedly<sup>8</sup> to a flatter demand curve, that is, a larger increase in beer consumption for any given price drop than would occur without this additional assumption. A keen-witted microeconomist might then move on to construct the *temperature-compensated demand curve* in order to get rid of the bogus *temperature effect*, which is indeed merely an illusion that emerges by design.

Now, this example raises the question of what additional assumptions are analytically helpful and what assumptions are entertaining shenanigans at best. A reasonable starting point is to make as few and weak additional assumptions as possible and to keep all independent variables constant in order to gain a clear view on the one chain of cause and effect that we are interested in, namely, the effects of an exogenous price change along a given demand curve. This means that we invoke the classical *ceteris paribus* clause simply for the sake of analytical clarity. This means that we hold all variables constant that we cannot causally link to the exogenous price change under consideration. As an analytical point of departure, this implies that we hold all other money prices constant (and indeed the air temperature)—unless and until we

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<sup>8</sup> Trigger-alert: I do assume that the subjective preferences of the beer drinker are such that higher air temperature increases the want satisfaction derived from drinking beer relative to the opportunity costs of spending money on beer. This is not to say that subjective preferences change, but simply that the side constraints change and hence the same subjective preferences manifest themselves differently in action.

can establish a causal connection to them—and this might well be possible under certain conditions (although I am not sure about the air temperature). We do not, however, assume these variables to change independently, precisely because we intend to isolate one chain of cause and effect, before embedding it into the whole picture. The latter, as Salerno rightfully points out by reference to the interdependence between markets for specific goods and the overall market for money balances, is of course the ultimate purpose of any serious economic analysis.

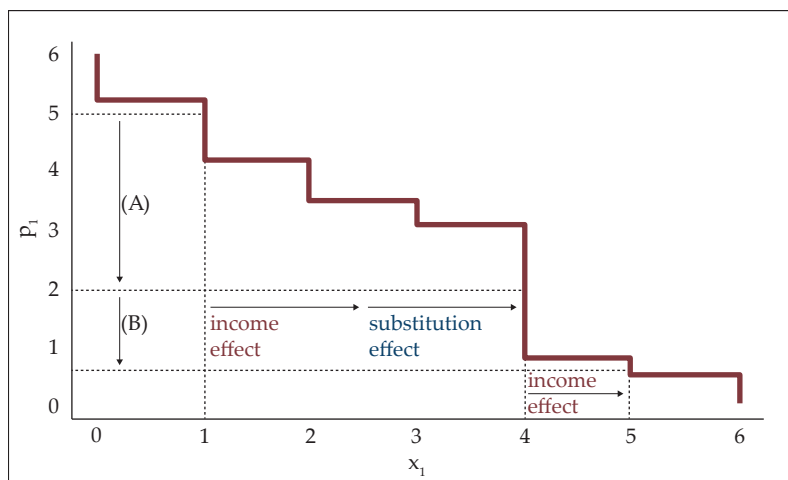
In order to briefly revisit my reconstruction of the income effect, let us take the reference point  $p_1 = 5$  and  $x_1 = 1$  on the demand schedule shown in Figure 4. Let us suppose that the price falls to  $p'_1 = 2$ . The quantity demanded at this price would be  $x'_1 = 4$ . The overall effect is thus  $\Delta x_1 = 3$ , that is, consumption increases by 3 units. It costs 6 money units to pay for the three additional units of the good, but the consumer also saves 3 money units on the first ( $\Delta p_1 = p'_1 - p_1 = 2 - 5 = -3$ ).<sup>9</sup> Hence, half of the expenses for the additional units are covered by what I called the *wealth effect* of the price change. The other half requires a genuine substitution in terms of a lower cash balance and/or lower money expenses for other goods. Hence, my suggested decomposition leads to a wealth effect of  $\Delta x_1^W = 1.5$  and a substitution effect of  $\Delta x_1^S = 1.5$  (overall  $\Delta x_1 = \Delta x_1^W + \Delta x_1^S = 3$ ).

The analysis changes to some extent when we pick a price-inelastic segment of the demand schedule. Let us take  $p_1 = 2$  and  $x_1 = 4$  as the reference point. If the price falls to  $p'_1 = 0.60$ , consumption would increase by one unit,  $\Delta x_1 = 1$ . The additional unit costs merely 0.60, but the individual saves 1.40 on each of the first four units ( $(p'_1 - p_1)x_1 = -5.60$ ). The expenses for the additional unit can entirely be financed out of the wealth effect. There is no genuine substitution necessary to make the additional consumption possible. To the contrary, the individual can afford the additional unit and has a higher cash balance and/or can spend more money on other goods and services. Hence, the entire effect can be interpreted as a wealth effect. *This led me to argue that the wealth effect so understood, far from*

<sup>9</sup> At this point one may recognize the similarity to the Slutsky decomposition. The 3 money units saved correspond to the income adjustment that would be made to derive the income-compensated Marshallian demand.

being an illusion, is indeed more general than the substitution effect. The latter *only* comes into play on price-elastic segments of the demand curve. The two price changes discussed are illustrated in Figure 5.

**Figure 5. The reconstructed wealth effect with genuine substitution over a price-elastic segment of the demand curve (A) and the reconstructed wealth effect without substitution over a price-inelastic segment of the demand curve (B)**



This should suffice as a summary of my suggested reconstruction of a type of income effect within a causal-realist framework. Salerno's (2019, 581) "simple and obvious solution that is ready to hand" to solve the tension that I have identified is indeed very different and, as he himself points out, very similar to Friedman's (1949) version of the income-compensated Marshallian demand curve. Salerno explains: "it is necessary only to restrict my second *ceteris paribus* assumption to the prices of closely related goods and to interpret the fourth assumption as implying that the general prices of all other goods move inversely to the price of the good in question so as to offset the change in the value of money entailed by the initial price change."<sup>10</sup>

<sup>10</sup> Remember Salerno's initial assumptions were that we have to hold constant a) the buyer's value scale; b) the prices of all other goods; c) the buyer's stock of money balances; and d) the purchasing power of money.

Of course, as pointed out above, one can make such an adjustment of assumptions, but ultimately it is nothing but an acknowledgment that the “income,” “wealth,” “purchasing power” effect, or whatever one may want to call it, does exist. Salerno is simply assuming it away and then proclaims it to be gone. However, the fact that it can be assumed away does not in any way prove it to be an illusion. Quite to the contrary, the fact that it has to be assumed away proves it to be there. *The whole purpose of adjusting the assumptions in just the way Salerno does is to construct a compensated demand function.* The impetus for doing so does not seem to be very different from the one in standard neoclassical microeconomics: illustrating the *law of demand* by abstracting from the income effect and potential Giffen behavior. In order to do so, Hicks holds the level of utility constant and Slutsky holds the purchasing power constant by adjusting the nominal budget. And Salerno holds the purchasing power constant by changing other prices accordingly. These are three different ways to analyze the very same phenomenon. All of them, implicitly or explicitly, recognize that this phenomenon plays a role in consumer choice.

Salerno further criticizes my approach for ignoring the interdependence between one particular market and other markets. In particular, he argues that in assuming all other prices to remain constant, I ignore the fact that a change along the demand curve for a given good entails a disturbance of the overall market for money. He writes:

In Israel’s analysis, therefore, a variation of the price of the good along the demand curve involves a disturbance in the market for money balances. If the price of the good in question falls, it does so because either: 1. There has been an increase in the reservation demand for money on the part of other buyers who increased their cash balances by reducing the market demand for the good; or 2. The overall supply of money in the economy has contracted with a particular incidence on those who were former purchasers and who reduce their demand for the good. (Salerno 2019, 585)

First of all, it is surprising that Salerno does not mention a third and most intuitive possible cause of a price reduction along a given demand curve, namely, a general increase in supply of the good in question, because of increased production or diminished reservation demand for that good. But more importantly, it is perfectly clear that changes on the market for the one good in question have repercussions on other markets. To analyze them would be the next step.

Consider again the above price drop along a price-elastic segment of the demand curve (part “(A)” in Figure 5). Let us suppose that the cause is indeed a general increase in supply. The portion of the increased demand that is labeled substitution effect can be financed either out of a reduction of the cash balance or a reduction of demand for other goods. To the extent that it is financed out of a reduction in the cash balance, the individual has decreased the *reservation demand* for money and accordingly increased the *exchange supply* of money, both of which is perfectly in line with the presumption that the price of money, understood as the overall purchasing power of money, has increased as a result of the downward shift in the price along the demand curve for the good in question. To the extent that the substitution is financed out of a reduction in demand for other goods, there will be, as a mediate effect of the initial price change, a downward pressure on the money prices for those other goods. In this way the increase in the purchasing power of money may propagate to other markets. This downward pressure on prices may be interpreted as a reduction in *exchange demand* for money on the part of the sellers of the respective goods, which is again perfectly in line with the presumption that the overall purchasing power of money has increased.

We can further explicate the effects of the price change under certain additional assumptions. Assume, for example, that there are important complementary goods to the good in question. A reduction of the price for the latter will entail an increase in demand for those complementary goods. This will tend to push up their prices. On the other hand, if there are important substitutes to the good in question, any genuine substitution in consumer choice will occur primarily with respect to those substitutes. Demand for them will decrease and their prices will tend to fall more strongly than others.

Consider now the above price drop along a price-inelastic segment of the demand curve (part “(B)” in Figure 5). The increased consumption does in that case not require a sacrifice in terms of either a reduced cash balance or a reduced demand for other goods. To the contrary, the consumer can either increase the cash balance or the demand for other goods. To the extent that the consumer increases the demand for other goods, their prices will be pushed upward, which counterbalances the initial increase in the purchasing power of money. This may also be interpreted as an increase in the *exchange supply* of money, which is in line with the

presumption that the price of money, i.e. its purchasing power, has increased due to the initial price drop.

This brief exposition, I hope, illustrates the potential of this approach to elucidate the interdependencies of the various partial markets for goods and services as well as the overall market for money. It is precisely because this approach does not abstract from purchasing power, income or wealth effects, as Salerno does, that it lends itself nicely to a *general* analysis of all pricing effects. It allows to analyze all the dynamics and interdependencies of real-world market pricing, which is the declared goal of the causal-realist approach (Salerno 2007).

#### 4. CAUSAL-REALISM AND THE LAW OF DEMAND

There is a related issue that merits further consideration. Professor Salerno repeatedly chides my argument for misplaced realism, for example, when he laments a “single-minded quest for greater realism” (p. 586), a “zeal for realism” (p. 590), and a “misleading and self-defeating quest for realism” (p. 594) in my analysis. He seems to think that I claim a greater “realism of assumptions” in support of my argument and against his own. But this is not the case.

At no point did I claim that my *ceteris paribus* assumptions are realistic in the sense that they manifest themselves exactly like this in the real world. Nor did I characterize my demand curve as “something directly intuited from raw experience.” When Salerno makes that claim he quotes the following part of one of the sentences in the conclusion of my initial article in order to create the impression that I was referring to the demand curve as such being: “...an easy and direct illustration of a very real phenomenon that most people intuitively understand, namely, that consumers are made better off when a given good can be acquired at a lower money price” (Israel 2018b, 396). But here I was not at all referring to the *demand curve as such*, but to my *approach* to the income effect. And the purpose of the whole analysis was indeed to illustrate a real phenomenon—something that is not simply an illusion. This does not mean that every tool used in the analysis has to be something *real* in the sense that it is observable, measurable or manifested in the external world.

Salerno (2019) explains at length, quoting Wicksteed and Mises, that demand curves are abstract theoretical tools—and I could not agree more. Of course they are. If anything, only one single point of

a demand curve ever is revealed in the real world, namely, when an individual decides to buy a certain quantity of a good at a given price at a given time in a given place. We know that in any such case there is a counterfactual scenario in which the quantity would have been different depending on the price to be paid. For one thing, we know that the quantity would be zero if the price was only high enough. What the demand curve then does for us is to illustrate a *range of counterfactual scenarios* that helps us to think through the implications of changing between those counterfactuals, and ultimately to understand consumer choice and the market pricing process better.<sup>11</sup>

Salerno (2019, 590–91) argues that a demand curve is “a heuristic device” whose primary purpose is “to elucidate the operation of the law of marginal utility in the pricing process by tracing out the effect of a change of price on the quantity demanded, while all other factors influencing the amount of the good purchased are impounded in the *ceteris paribus* clause.” The purpose of constructing demand curves according to Salerno is thus to illustrate the operation of the law of demand. He moves on to argue that my own reconstruction ends up in a denial of the *law of demand*. And this brings us to the most important point of criticism in Salerno’s comment.

For Salerno, a demand curve by its very nature is income-compensated, because the *overall* purchasing power has to be held constant as the price changes along the demand curve, otherwise the underlying value scale would be distorted. Salerno makes of course an important point. It seems to be obvious that a bonus payment of \$10,000 or winning \$10 million in a lottery revolutionize a given preference scale. A synchronous and proportional decrease of all money prices would have an equivalent effect. Inferior goods might be substituted by superior goods, because the opportunity costs of expanding the required sum of money to buy the superior good have decreased and having the superior good makes the inferior good obsolete. The latter may drop out of the preference ranking entirely. The former may enter the preference ranking. Moreover, a preference ranking will not necessarily remain constant when only one money price changes. This is easy to see. A person may intrinsically value a Scotch more highly than a bourbon. However, when the Scotch costs twice as much, the person may not reveal

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<sup>11</sup> For a discussion of counterfactual laws in economic theory see Hülsmann (2003).



that preference in action, even though his budget might suffice to buy the Scotch. Given their respective money prices, the bourbon is preferred. If the bourbon were as expensive as the Scotch, the Scotch would be preferred, or no whiskey would be bought at all. In short, a preference ranking is not independent of money prices.

However, from the outset we have a very different situation. At no time have we explicitly considered a value ranking that involves more than two goods, for example, two whiskeys and money. We have only considered a preference ranking of two goods, namely, money balances and quantities of some specific good.<sup>12</sup> The individual has a certain budget in terms of money and decides how much of the budget to exchange against the good as a function of its money price. *The real question that is disputed is the following: Can this scenario be captured in one stable preference ranking, in which everything else is held constant, or do we have to adjust other money prices so as to prevent the revolution of the preference ranking?* The salient point of my argument was that we do not. All the effects of a changing money price on the demand for the good in question can be captured in the initial ranking, all other things held constant. However, if one wants to construct an example with a Giffen good, one would have to write the preference ranking down in a slightly different way.<sup>13</sup>

The next critical point raised by Salerno is that this means that a demand curve could have upward sloping segments. In other words, there could be Giffen behavior, which in his eyes contradicts the *law of demand*. Does it? If I understand Professor Salerno correctly, he holds that the law of demand *means* that any income-compensated demand curve is always downward sloping. I do not disagree. Indeed, it is pointless to disagree with a definition as long as it has any meaning at all, which is here the case. But my paper had a more general scope. I have constructed demand curves in a more general setting, including demand curves that are not income-compensated. This does not affect in the least the law of demand in Professor Salerno's definition. The question of whether this law holds or not is independent of the argument presented in my paper.

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<sup>12</sup> Again, the money balances can be interpreted as a placeholder for the demand for other goods, but this is not made explicit in the ranking.

<sup>13</sup> Instead of ranking quantities of money directly against quantities of the good in question, one would have to rank bundles including both money and the good in question.

What then about Giffen goods? It is not quite clear where Professor Salerno sees the contradiction between them and the law of demand. Is it the possibility of Giffen goods as such, or the idea of an upward sloping demand curve? That is, would he deny the existence of Giffen goods altogether, or would he argue that Giffen goods can exist, but there cannot be upward sloping demand curves, because demand curves always and everywhere have to be income-compensated?<sup>14</sup> I believe the latter describes his position more accurately. According to him, the whole point of constructing a demand curve is to illustrate the law of demand, and then indeed a demand curve needs to be income-compensated and downward-sloping. But why should that be the only purpose of analyzing demand curves? After all, we want to understand the real market pricing process, and if this is the goal, we should not abstract from the very real income effect.

## 5. CONCLUSION

Whatever the deficiencies of neoclassical price theory, it can hardly be denied that something similar to the neoclassical income effect does indeed exist and is not merely an illusion. I have proposed a way of incorporating this element of the real world into causal-realist price theory. My demonstration is similar to the Slutsky decomposition of income and substitution effects, in the sense that it takes account of the same hypothetical income compensation underlying the income-compensated Marshallian demand curve. But it is fundamentally different in the sense that it abstains from postulating what the demand would have been if the hypothetical income compensation had actually taken place. In my reconstruction, the wealth (or income) effect becomes the more general of the two effects. A genuine substitution *only* emerges along price-elastic segments of the demand curve.

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<sup>14</sup> Notice that I actually have not taken a stance on whether or not Giffen goods are possible. I believe the question is rather complicated. Salerno makes it seem as if I have assumed that demand curves always have to be downward sloping, but, strictly speaking, I did not make such a claim. It just so happened that I picked an example with a downward sloping demand curve. And indeed, I believe this to reflect the general rule, and I feel inclined to regard Giffen goods as extreme exceptions, if they exist at all. But frankly, I do not know. In principle, they might exist.

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## BOOK REVIEW

# THE MARGINAL REVOLUTIONARIES: HOW AUSTRIAN ECONOMISTS FOUGHT THE WAR OF IDEAS

JANEK WASSERMAN

NEW HAVEN, CONN.: YALE UNIVERSITY PRESS, 2019, XIII + 354 PP.

SAMUEL BOSTAPH\*

Before I had read less than a hundred pages of this book, I surmised that the author was not an economist and definitely not an economist who had any “Austrian School” affiliation. Instead, I was sure he was an historian. The dustcover of the book identified him only as associate professor at the University of Alabama. A quick Google search confirmed that Janek Wasserman is Associate Professor of Modern German and Central European History at that university.

This explained the welcome use of a rich trove of German language sources and his ability to place the social narrative in the context of Central European history. It also explained the main weaknesses of the book—its lack of a general economic understanding or of precision in theoretical explication.

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Of course, to write a history of a school it is necessary to identify its members by elucidating some common bond or feature that ties the members together. Wasserman recognizes this; however, other than the fact that the early members he includes were part of the economic clerisy in Vienna at the turn of the twentieth century and knew each other, and that the next generations associated and interacted with the previous ones, a defining characteristic is never presented. He refers to the scholars he discusses as (p. 40) "a social network", or (pp. 231, 267) "a thought style". He's also rather loose with the use of the terms "pupil," "student," and "students." Eugen von Boehm-Bawerk and Friedrich von Wieser were never "students" of Carl Menger. It would be more accurate to describe him as their "mentor."

So far as the other names mentioned as members of the early "school," it's rather a grab bag of contrasting foci. Perhaps, it is possible to gather them together in what Deirdre McCloskey (p. 3, referencing Kwame Anthony Appiah) terms "a loose and baggy sense." If there is any principle that might be useful in this regard, it is probably the fact that they all seemed to accept and use the marginal utility principle in their theorizing. And, of course, most of the men listed not only knew each other—some participated in organized discussion groups and other forms of socializing.

The marked division between those who employed the causal-genetic method of logical reasoning and those who attempted with varying degrees of success to use mathematical reasoning in their theorizing makes calling them a "school" even baggier and may partly explain why contemporary "Austrian" scholars sort themselves into different traditions. The scholars working in Menger's methodological tradition rejected the assumption that there are any constant relations in human action and employed causal narrative rather than mathematical methods for theorizing, while others, like Wieser and Joseph Schumpeter, either accepted the use of mathematical functionality in their theories of human action or didn't question it.

In any event, I think it is more useful to view this book as a sociological, rather than an intellectual, history of a collection of scholars united by geography in the early years and exhibiting varying degrees of theoretical indebtedness in the later decades.

A number of Austrian intellectuals in the late nineteenth and early twentieth centuries, most of them living and working in Vienna, gathered together and interacted in various ways in the pursuit of new knowledge mostly concerning the economic side of life. If there was a spark that ignited these gatherings and interactions, it was Carl Menger's 1871 *Grundsätze*. It inspired Eugen von Böhm-Bawerk and Friedrich von Wieser and others to do further research and to meet for intellectual companionship. They met in coffee houses, formed intellectual circles of research, discussion, and instruction; some taught at university, some attracted and mentored students who went on to engage in similar activities, many emigrated to other countries and continued those activities, some became faculty members at leading universities in Britain and the United States, and some also became international figures in economic policy-making. There were always factions among them, some bitter, others respectful, and this has continued to the present day.

Wasserman ably traces this social history, and the book is well worth reading for that information. He is less successful in explicating specific theoretical arguments of key figures in that history, especially in the early work by Menger, Wieser, and Ludwig von Mises.

Of Menger's *Grundsätze*, he characterizes it as focusing (p. 25) "on production, the role of time, and the importance of the final, marginal unit of a good." This is misleading. Menger's primary focus is on the knowledge and subjective evaluations of individual economizers that drive all economizing activity in a market economy. It is the individual who identifies his needs, the goods that might satisfy those needs, the causal processes that might result in the means for need satisfaction, and the structure of production that may result in the first order goods that are required for this result. There is some acknowledgement of this focus on pages 28, 35, and 52, but it does not receive the required emphasis that pervades Menger's work.<sup>1</sup> It's worth noting that only two out of eight chapters of the *Grundsätze* concern the structure of production—that's 70 out of 202 pages (58 out of 300 in the 1950 English translation). Even if we include the few pages on the concept of capital and the role of

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<sup>1</sup> The emphasis on individuals as the source of actions directed to need satisfaction in "economic activity", producing individual as well as national economies, is also found in Menger's *Untersuchungen* ([1883] 1963, 193, n128).

the entrepreneur in Chapter III, the emphasis is still on individual economizing and valuation. The rest of the book continues the focus on the individual in his actions in valuing and exchanging goods in the context of a market economy.

Wasserman also mischaracterizes the *Methodenstreit* as (p. 31) “primarily a dispute between two irascible, vain professors.” It was much more importantly a clash between two seriously opposed epistemological perspectives, and especially those concerning the nature of causality. (Bostaph 1978) Using descriptives such as “vain,” “ponderous,” “opaque,” and “constipated” to characterize Menger and his prose is one of the less appealing aspects of Wasserman’s portrait of Menger (and others) in his social history. Terms like “dogma,” “elitist,” “reactionary,” and “radical” are sprinkled throughout the book in reference to “Austrian” figures and their thought.<sup>2</sup>

With respect to Wasserman’s treatment of Friedrich von Wieser, I can’t imagine a greater misunderstanding of his writings. Wasserman managed to read *Natural Value* and *Social Economics* without comprehending that both are briefs for state socialism. Wieser correctly perceived that state socialist societies with no private property rights for higher order goods lacked a means of calculating their relative scarcities. This would make the organization of production ad hoc. Wieser’s solution was to invent a faux util to use for calculation—a unit of “natural value.” He even admitted at the end of *Natural Value* (p. 242) that the unit was fictional.<sup>3</sup> In fact, his concept of it is not only fictional, it is incoherent (Bostaph 2003). Wasserman terms it “innovative.” In his *Social Economics* Wieser refers to “units of utility” which are the economy’s “natural values” that can be used for calculation by state socialist planners. As Menger and others in his methodological tradition recognize, marginal utility calculations are only possible for individuals—they are subjective,

<sup>2</sup> Wasserman (p. 5) asserts that “the Austrians blended philosophical and ideological values, scientific work, and policy intervention, creating a radical mélange.” A mélange is a mixture of different things, like a stir fry. It is not a logical development of ideas into a consistent system of understanding and interpretation, such as that provided by Ludwig von Mises. There is no scholarly argument in this book that supports Wasserman’s characterization.

<sup>3</sup> One is reminded of the old joke about the priest, the physicist, and the economist on a desert island trying to open a can of beans without any tools. The economist solves the problem saying, “Assume we have a can opener.”

and ordinal. They cannot be objectified and used for state socialist planning as Wieser fantasized.

Wasserman also applauds Wieser's theory of imputation as presented in *Natural Value*. There, Wieser confuses the question of the imputation of expected values by an individual economizer with that of the calculation of distributive shares of cooperating factors from an expected return. He attempts to construct a theory of distribution using a theory of imputation. His use of three simultaneous equations to do so is particularly flawed because the meanings of the variables and constants in the equations are ambiguous and each assumes a fixed proportion production process. It is not clear what is being imputed to what. Also, without realizing he has done so, Wieser necessarily drops the marginal utility theory of value. Wasserman finds Wieser's approach "creative" and "novel."

Wieser's *Law of Power* fails to rise much above the level of the *obiter dicta* of a widely-read and learned man. Other than a few passing mentions of classic works and authors, the text of the book is completely unreferenced. Aside from the basic ad hoc nature of the theory, the ambiguities in Wieser's concepts of "power," "leadership," "goals," and "success" are fatal to its coherence. What exactly is "power"? So many influences on individual decision-making are mentioned by Wieser that it is difficult to resist the conclusion that by "power" he means whatever causes one to do what one does. Wieser's "theory" of power was earlier used by him in *Natural Value* and *Social Economics*. There, the "power" of large enterprises and personal wealth are said to distort the nexus of natural values between traded commodities. Prices and production become determined by the wealthy and powerful to the disadvantage of the poor because the marginal utility of money is lower for the former than the latter group. What this argument illustrates is a basic lack of understanding of how markets work and an assumption that interpersonal comparisons of utility can be made. Even in an economy with equal incomes, wealth, and power for all participants, there would be a "stratification" of prices and marginal utilities as a result of differing preferences, education, degrees of good and bad taste, and the ebb and flow of individual participants in different markets. Wasserman opines that Wieser's *Law of Power* was the only novel contribution by an "Austrian School" scholar in the 1920s. Indeed.



Wasserman's failure to grasp the core of Wieser's alleged solution to the calculation problem for a state socialist society may be the reason his explication of Mises's 1920 and 1936 argument also fails. Contra Wasserman's p. 106, Wieser did not argue that money calculation was a natural feature of any economy, he invented units of "natural value" or "utility" to use for the needed calculations in a state socialist society.

Contra Wasserman's p. 105, Mises did not argue that state socialism could not use money as a unit of calculation, he argued that with no private ownership of higher order goods in such a society, no market-determined prices could be established for them that reflected their relative scarcities to those contending for their uses in production. To economize is to calculate in prices, whether barter or money; it is to seek the lowest expected opportunity cost of the means to achieve the end for which one is economizing. That is why Mises argued that the socialist planned economy is in reality no economy. Without market-determined prices that reflect their relative scarcities, no one in that society can calculate the expected opportunity costs of the productive use of higher order goods, and thus make decisions as to how they are to be efficiently used in the production of lower order goods. Without market-determined prices for all resources, production processes would be ad hoc and non-economic.<sup>4</sup>

The social history sections of the book are actually pretty interesting. Wasserman gives succinct histories of the Mont Pelerin Society, the European Forum, the Institute for Advanced Studies, the Institute for Economic Affairs, the Atlas Network, the Cato Institute, George Mason University's Mercatus Institute, and the influence of Gottfried Haberler and Fritz Machlup on various international institutions.

The last chapter of the book is titled "Conclusion", and while it does end the book, it contains much recent history of "Austrian" factionalism and an extended *ad hominem* against major figures

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<sup>4</sup> There was much more in Mises's brief against socialism, but the inability to use market prices in calculation was the crucial argument. The subsequent history of the Soviet Union and the China of Mao Zedong proved Mises's case. They became parasitic of Western technology and production processes and devoted considerable effort to stealing intellectual property from the West, as China under Xi Jinping still does.

associated with the Ludwig von Mises Institute. In short, it is a political chapter rather than a continuation of a social history that aspires to be an intellectual one. This is Wasserman's opportunity to empty a bucket of right-wing tar on the scholars associated with the Mises Institute indirectly through its founders and some of their associates, as if the scholarship that the Institute has encouraged, sponsored, and published is somehow thereby also demeaned. It is greatly disappointing that the author chose to substitute an attempted smear for what could have been a discussion of promising current trends in "Austrian" scholarship.

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## BOOK REVIEW

# AUSTRIAN PERSPECTIVES ON ENTREPRENEURSHIP, STRATEGY, AND ORGANIZATION

NICOLAI FOSS, PETER KLEIN, AND MATTHEW MCCAFFREY  
CAMBRIDGE: CAMBRIDGE UNIVERSITY PRESS, 2019, 75 PP.

LUDVIG LEVASSEUR\*

The book entitled *Austrian Perspectives on Entrepreneurship, Strategy, and Organization* coauthored by Nicolai Foss, Peter Klein, and Matthew McCaffrey is a must-have for management and economics scholars whose research interests include Austrian economics, entrepreneurship, strategy, and organization. Indeed, the authors succeeded in the tour de force of convincingly explaining how Austrian ideas play a crucial role in gaining a better understanding of entrepreneurship, strategy, and organization research and of reviewing the achievements of Austrian economics in management and proposing some potentially fruitful directions for future research in a concise book (60 pages in total excluding

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references). In that regard, another title for their book could have been: *Austrian Perspectives on Entrepreneurship, Strategy, and Organization: Past Accomplishments and Future Directions*. Illustrating that ambition, the authors wrote in the introduction that “one overall purpose of this [...] [book] is to argue broadly for the usefulness of Austrian economics in informing and furthering management research” (Foss, Klein and McCaffrey 2019, 2). Moreover, in that section, the authors make the case for the relevance of Austrian economics in management thought and research by highlighting the importance of Austrian ideas such as Hayek’s (1945) decentralized and unevenly distributed knowledge.

The second section presents an overview of the origins and key concepts of Austrian economics, starting with the “founder” of the school, Carl Menger ([1871] 2011), who published his seminal book entitled *Principles of Economics* in 1871. The authors shed light on a notable characteristic of Austrian economics: its scope. As they rightly wrote: “Austrian economics attempts to offer a wide-ranging but integrated account of economics relations, with a focus on realistic explanations of the causal relationships between economic phenomena” (Foss et al. 2019, 7). The authors also present five key concepts that lie at the center of an Austrian approach to management: methodological individualism (i.e., individuals make plans and they act to pursue their goals), subjectivism (i.e., value is subjective and differs from one individual or object to another over time), tacit and dispersed knowledge (i.e., the knowledge an individual has is related to his information, specific experience, and expectations; see also Foss, Klein, Kor and Mahoney 2008; Hayek 1945; Yu 2005), heterogeneous capital (i.e., capital is not homogeneous, making the resource combination and the resulting resource-based competitive advantage idiosyncratic or hyper-specific), and uncertainty<sup>1</sup> (i.e., individuals face uncertainty when they seek to satisfy their wants through their actions).<sup>2</sup> We should also note here that uncertainty was also taken into account in Misesian theory. Indeed, Rothbard

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<sup>1</sup> Other works distinguishing between uncertainty and risk include Alvarez and Barney (2019); Alvarez, Barney, and Anderson (2013); and Knight (2006).

<sup>2</sup> This sheds light on the fact that individual actions *take place in time*. In that regard, *time* is an important factor of production (e.g., Lewin and Phelan 2000) that distinguishes the Austrian school from the Keynesian “mainstream” school.

(1985, 281) explained that “Mises conceives of the entrepreneur as the uncertainty-bearer, who receives profits to the degree that he can successfully forecast the future, and suffers losses to the extent that his forecasting goes awry.”

The third section of the book is focused on entrepreneurship. Building on Mises, the authors shed light on the fact that *the entrepreneur is the driving force of the market*. Indeed, Mises ([1949] 1996) gave a central role to the entrepreneur when he wrote ([1949] 1996, 328) that “[t]he driving force of the market process is provided neither by the consumers nor by the owners of the means of production—land, capital goods, and labor—but by the promoting and speculating entrepreneurs.” Moreover, building upon other seminal works (e.g., Klein 2008), the authors present three theories of entrepreneurship: occupational, structural, and functional, and they narratively classify them by definitional object (respectively, self-employment, a new or small innovative firm, and a series of actions or a process) and unit of analysis (respectively, the individual, the firm or industry, and mainly the individual). Furthermore, the authors present several Austrian contributions to entrepreneurship theory, including those from Menger, Böhm-Bawerk, Wieser, and Mises. In this regard, the authors shed light on the importance of *the customer’s most urgent need* in Misesian theory (on the importance of future consumer wants, see also Klein and Bylund 2014). Indeed, we recall here that Mises explained that “[t]he business of the entrepreneur is not merely to experiment which new technological methods, but to select from the multitude of technologically feasible methods those which are best fit to supply the public in the cheapest way with the things they are asking for most urgently” (Mises [1952] 2008, 144–45). The authors then develop a subsection on Kirznerian alertness tracing back to the origins of the concept (Kirzner defined alertness in his book as “the ability to notice without search opportunities that have been hitherto overlooked”; Kirzner [1979], 148; see also Kirzner 1973), explaining that entrepreneurs discover new possibilities for resource use or arbitrage, new products, and new markets (Foss et al. 2019, 18) and relating them to (1) the important research questions in the study of entrepreneurship (Shane and Venkataraman, 2000), (2) the purpose of Kirzner’s theory, and (3) the antecedents of opportunity discovery/recognition (e.g., Ardichvili, Cardozo and Ray 2003;

Baron and Ensley 2006; Gaglio and Katz 2001; Shane 2003) including opportunity evaluation and judgment (e.g., Autio, Dahlander and Frederiksen 2013; McMullen and Shepherd 2006; Tang, Kacmar and Busenitz 2012; Wood and McKelvie 2015).<sup>3</sup> Regarding Kirzner's theory, it should be noted, following Foss and Klein (2012, 70), that "Kirzner offers no theory of how opportunities come to be identified, who identifies them, and so on; identification itself is a black box" (see also Kirzner 2009). Indeed, the authors point out that the "[t]he purpose of Kirzner's theory [...] is not to explain entrepreneurial action per se, but to offer a macro-level account of market equilibration [...]" (Foss et al. 2019, 18). However, this does not mean that Kirzner denied the importance of psychological and personality qualities. Indeed, Kirzner (1982, 155) noted that:

the exercise of entrepreneurial alertness in the multiperiod market context will [...] call for personal and psychological qualifications that were unneeded in the single-period case. To be a successful entrepreneur one must now possess those qualities of vision, boldness, determination, and creativity that we associated earlier with the entrepreneurial element in isolated individual action with respect to an uncertain future. There can be no doubt that in the concrete fulfillment of the entrepreneurial function these psychological and personal qualities are of paramount importance. It is in this sense that so many writers are undoubtedly correct in linking entrepreneurship with the courage and vision necessary to create the future in an uncertain world [...].

Last, the authors present *the judgment-based approach* and its boundaries (for instance, luck; see also Foss and Klein 2015), an important component of the Austrian entrepreneurship theory. This directly follows from Knight ([1921] 2006, 276), who explained that:

[w]hen, however, the managerial function comes to require the exercise of judgment involving liability to error, and when in consequence the assumption of responsibility for the correctness of his opinions becomes a condition prerequisite to getting the other members of the group to submit to the manager's discretion, the nature of the function is revolutionized; the manager becomes an entrepreneur.

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<sup>3</sup> To Foss and Klein (2012, 76), the "relevant" unit of analysis is not the opportunities but "the assembly of resources in the present in anticipation of (uncertain) receipts in the future" (see also Klein and Foss 2008).

The authors notably highlight that the judgment-based approach starts with the subjective values and knowledge entrepreneurs have (as highlighted in the second section above). The authors also echo Foss and Klein (2012, 98), who observed that “judgment is not simply decision-making under conditions of uncertainty, but decision-making about the resources the decision-maker owns and controls.” Overall, “[e]ntrepreneurship is [...] the act of taking responsibility for real assets, investing them in anticipation of uncertain future rewards” (Foss et al. 2019, 20).

The fourth section includes extensions of entrepreneurship theory. The first extension is *social entrepreneurship*. Building upon prior literature, the authors define social enterprises as “business organizations that do not narrowly pursue monetary profit and returns for shareholders, but rather aim to create value for stakeholder groups by providing solutions to ‘social’ problems [...]” (Foss et al. 2019, 23–24). The authors make a series of very good points including the ambiguities around the economic meaning of a social enterprise and the problematic (*confused or ambiguous*) meaning of the word “social,” the danger of *methodological collectivism* (i.e., when the value for society is disconnected from the values from their composing individuals), and the price system as a boundary / frontier for social enterprises. Moreover, the authors also rightly argue that “[...] Mises’s calculation argument demonstrates that the entrepreneurial market economy is profoundly social” (Foss et al. 2019, 24–25). Their argument echoes Mises, who explained in *Human Action* that “[...] the characteristic feature of human society is purposeful cooperation; society is an outcome of human action, i.e., of a conscious aiming at the attainment of ends” (Mises [1949] 1996, 145). The second extension is political entrepreneurship. Here the authors highlight in particular that *political entrepreneurship* builds upon the assumption that “political behavior does not exist in an economic vacuum, and [...] some of the main problems market entrepreneurs struggle to solve also appear in government organizations” (Foss et al. 2019, 28; on the relationship between government policy and entrepreneurial activity, see also Minniti 2008). This extension on political entrepreneurship can be also related to Holcombe (2007, 144) who wrote that:

[t]he fundamental difference between the invisible hand of the market and the coercive hand of government is that government allows some to impose their preferences on others by force. The reallocation of

resources through coercion is not an anomaly that sometimes arises in politics, but is inherent in the way that the democratic political system was designed. What follows is an examination of the implications of democratic decision making on the opportunities for political entrepreneurship, and in turn the implications of political entrepreneurship on the political allocation of economic resources.

The third extension focuses on *entrepreneurship and the rules of the game* (i.e., institutions; see also Koppl 2006). Herein, the authors refer to Baumol's (1990) seminal paper on productive, unproductive, and destructive entrepreneurship and remind the reader of Baumol's powerful argument that entrepreneurship takes place in an existing institutional framework (on institutions and entrepreneurship, see also Boettke and Coyne 2009, Bradley and Klein 2016, Bylund and McCaffrey 2017). Entrepreneurs are not passive actors. Indeed, based on the uncertain future rewards they think they will get from their present actions, they can choose how they actively respond to institutional constraints (Foss et al. 2019, 30). The fourth extension is *institutional entrepreneurship*. Here, the authors shed notable light on the growing literature conveying the message that Baumol's assumption is unrealistic and unnecessary. Entrepreneurs can be more realistically portrayed as *institution makers* and *institution takers*.

The fifth section focuses on strategy from an entrepreneurial perspective. The authors present some Austrian influences on firm strategy. The authors remind the reader that:

[a] firm is said to be in possession of a sustained competitive advantage when it has the potential to create and appropriate more value than the competition on a persistent basis [...] [and that] strategy is about creating, maintaining, defending, renewing, etc. competitive advantages, and [that] strategies are more or less formal plans or patterns of actions that ultimately aim at this (Foss et al, 2019, 34).<sup>4</sup>

The authors also make the powerful argument that incorporating core Austrian economic ideas into strategic management can help advance knowledge in *both domains*. Moreover, the authors also

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<sup>4</sup> This important quote is related to the crucial role of competition (on competition, see also Hayek [1948] 2009; Jacobson 1992). For example, Young and colleagues found a positive relationship between competitive firm activity and firm performance (see Young, Smith, and Grimm 1996).



present an overview of the resource-based view (see also Barney 1991; Foss and Ishikawa 2007; Kraaijenbrink, Spender, and Groen 2010; Wernerfelt 1984) and the related VRIN framework (i.e., to have a competitive advantage, a firm should possess valuable, rare, inimitable, and non-substitutable resources; see Barney 1991) and discuss the relationship between Austrian economics and strategic management in more detail. The authors notably highlight that “[...] strategy [...] [has] neglected to pay sufficient attention to the internal side of firms, including the resources they own, access, and control, and how these are deployed and protected to maximize rents over time” (Foss et al. 2019, 37).<sup>5</sup> The authors also discuss the relationship between Austrian economics and dynamic capabilities (e.g., Barreto 2010; Eisenhardt and Martin 2000; Helfat, Finkelstein, Mitchell, Peteraf, Singh, Teece and Winter 2007; Penrose 1959; Teece 2007; Teece, Pisano and Shuen 1997). In that regard, we should note that the compatibility between Austrian economics and dynamic capabilities was also discussed by Teece. Indeed, he explained that “Hayek and other Austrian School economists such as [...] Mises and Kirzner maintain that people do not allocate means to ends; rather, they consistently seek to discover and create new ends and means. In this regard, Austrian economics is compatible with dynamic capabilities” (Teece 2014, 345). Furthermore, the authors shed light on the fact that the overlapping territory between the resource-based view and Austrian economics includes *heterogeneous, specific, and complementary capital goods* (e.g., Lachmann [1956] 1978, 1977), *localized knowledge* (Hayek 1945), *informational advantage* as a powerful source of competitive advantage, and *customer sovereignty* (see also Mises [1952] 2008). Last, the authors present arguments on how Austrian economics can advance contemporary strategic thinking. In particular, the authors shed light on the fact that Austrians demonstrated why Lippman and Rumelt’s (2003) argument that competitive advantage is an outcome of entrepreneurs judging not-priced and heterogeneous capital asset combinations was right (Foss et al. 2019, 43).<sup>6</sup>

The sixth section focuses on the entrepreneurial nature of the firm. In this section, the authors notably explain that the entrepreneur lies

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<sup>5</sup> On rents and resources, see also Lewin and Phelan (2000).

<sup>6</sup> The authors also highlight the importance of the entrepreneur’s mental model (see also Gavetti and Levinthal, 2000).

at the core of an Austrian approach to the firm. However, although many scholars have developed a theory of the firm (e.g., Coase 1937), “the Austrians [...] [have been] slow to develop a theory of the firm-as-organization, despite developing other important insights into incentives, information, and governance [...]” (Foss et al. 2019, 50). Yet, Hayek’s (1945) development of decentralized and unevenly distributed knowledge and the important role of rules and institutions (e.g., the price mechanism) in helping agents are normally conducive to the development of such a theory. Moreover, the authors (2019, 51) also develop a different explanation for the existence of firms compared to the explanations given in previous works (e.g., Bylund 2011, Coase 1937): “entrepreneurs establish firms to overcome what Knight ([1921] 2006) described as the non-contractibility of entrepreneurial judgment.” Also, the authors explain that “[f]irm boundaries [...] are determined by the relative advantages of internal coordination under the control of an entrepreneur-owner and external coordination via markets and prices [...]” (Foss et al. 2019, 51). Furthermore, the authors (2019, 53) explain, regarding authority and delegation, that “[u]nder uncertainty, ownership conveys authority, even if owners choose to delegate a substantial amount of day-to-day discretion to subordinates,” conveying the message that *the ownership-responsibility couple* plays an important role in Austrian economics.

In the seventh and last section on the future of Austrian economics in management research, the authors present the increasing influence of Austrian economics not only on management, thereby highlighting the crucial human actions and judgments that take place under conditions of uncertainty and scarcity and in a larger social and institutional context, but also on other fields including marketing, finance, cost accounting, and business history/theory. In doing so, the authors convey the message that Austrian economics “[...] is sufficiently flexible to speak to and inform multiple management fields” (Foss et al. 2019, 59). In conclusion, this book is a *must-have* for management and economics scholars whose research interests include Austrian economics, entrepreneurship, strategy, and organization and we invite scholars to read their book. Adding to their important work, we invite scholars to specifically focus on how, using qualitative methods, the Beliefs-Actions-Results framework (see also Foss and Klein 2018; Foss,

Klein, and Bjørnskov 2019) influences firm resources, capabilities, and performance. This qualitative investigation is also consistent with Mises ([1933] 2003, 137–38), who explained that:

[i]n the sciences of human action [...], we comprehend phenomena from within. Because we are human beings, we are in a position to grasp the meaning of human action, that is, the meaning that the actor has attached to his action. It is this comprehension of meaning that enables us to formulate the general principles by means of which we explain the phenomena of action.

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## BOOK REVIEW

# THE DEFICIT MYTH: MODERN MONETARY THEORY AND THE BIRTH OF THE PEOPLE'S ECONOMY

STEPHANIE KELTON

NEW YORK: PUBLICAFFAIRS, 2020, 336 PP.

ROBERT P. MURPHY\*

I've got good news and bad news. The good news is that Stephanie Kelton—economics professor at Stony Brook and advisor to the 2016 Bernie Sanders campaign—has written a book on Modern Monetary Theory that is very readable, and will strike many readers as persuasive and clever. The bad news is that Stephanie Kelton has written a book on MMT that is very readable and will strike many readers as persuasive and clever.

To illustrate the flavor of the book, we can review Kelton's reminiscences of serving as chief economist for the Democratic staff on the U.S. Senate Budget Committee. When she was first selected, journalists reported that Senator Sanders had hired a "deficit owl"—a new term Kelton had coined. Unlike a deficit *hawk* or a deficit *dove*, Kelton's deficit *owl* was "a good mascot for MMT

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because people associate owls with wisdom and also because owls' ability to rotate their heads nearly 360 degrees would allow them to look at deficits from a different perspective" (p. 76).

Soon after joining the Budget Committee, Kelton the deficit owl played a game with the staffers. She would first ask if they would wave a magic wand that had the power to eliminate the national debt. They all said yes. *Then* Kelton would ask, "Suppose that wand had the power to rid the world of US Treasuries. Would you wave it?" This question—even though it was equivalent to asking to wipe out the national debt—"drew puzzled looks, furrowed brows, and pensive expressions. Eventually, everyone would decide against waving the wand" (p. 77).

Such is the spirit of Kelton's book, *The Deficit Myth*. She takes the reader down trains of thought that turn conventional wisdom about federal budget deficits on its head. Kelton makes absurd claims that the reader will think surely *can't* be true... but then she seems to justify them by appealing to accounting tautologies. And because she uses apt analogies and relevant anecdotes, Kelton is able to keep the book moving, despite its dry subject matter. She promises the reader that MMT opens up grand new possibilities for the federal government to help the unemployed, the uninsured, and even the planet itself...if we would only open our minds to a paradigm shift.

So why is this bad news? Because Kelton's concrete policy proposals would be an absolute disaster. Her message can be boiled down into two sentences (and these are my words, not an exact quotation): *Because the Federal Reserve has the legal ability to print an unlimited number of dollars, we should stop worrying about how the government will "pay for" the various spending programs the public desires. If they print too much money, we will experience high inflation, but Uncle Sam doesn't need to worry about "finding the money" the same way a household or business does.*

This is an incredibly dangerous message to be injecting into the American discourse. If it were *mere* inflationism, we could hope that enough of the public and the policy wonks would rely on their common sense to reject it. Yet because Kelton dresses up her message with equations and thought experiments, she may end up convincing an alarming number of readers that MMT really *can* turn

unaffordable government boondoggles into sensible investments, just by changing the way we think about them.

Precisely because Kelton's book is so unexpectedly impressive, I would urge longstanding critics of MMT to resist the urge to dismiss it with ridicule. Although it's fun to lambaste "*Magical Monetary Theory*" on social media and to ask, "Why don't you move to Zimbabwe?", such moves will only serve to enhance the credibility of MMT in the eyes of those who are receptive to it. Consequently, in this review I will craft a lengthy critique that takes Kelton quite seriously, in order to show the readers just how *wrong* her message actually is, despite its apparent sophistication and even charm.

## MONETARY SOVEREIGNTY

In her introductory chapter, Kelton lures the reader with the promise of MMT, and also sheds light on her book title:

[W]hat if the federal budget is fundamentally different than your household budget? **What if I showed you that the deficit bogeyman isn't real?** What if I could convince you that we can have an economy that puts people and planet first? That finding the money to do this is not the problem? (p. 2, bold added)

The first chapter of the book makes the fundamental distinction for MMT, between currency issuers and currency users. Our political discourse is plagued, according to Kelton, with the fallacy of treating *currency issuers* like Uncle Sam as if they were mere *currency users*, like you, me, and Walmart.

We mere currency users have to worry about financing our spending; we need to come up with the money—and this includes borrowing from others—before we can buy something. In complete contrast, a *currency issuer* has no such constraints, and needn't worry about revenue when deciding which projects to fund.

Actually, the situation is a bit more nuanced. To *truly* reap the advantages unlocked by MMT, a government must enjoy *monetary sovereignty*. For this, being a currency issuer is a necessary but insufficient condition. There are two other conditions as well, as Kelton explains:

To take full advantage of the special powers that accrue to the currency issuer, **countries need to do more than just grant themselves the exclusive right to issue the currency. It's also important that they don't promise to convert their currency into something they could run out of (e.g. gold or some other country's currency). And they need to refrain from borrowing...in a currency that isn't their own.** When a country issues its own nonconvertible (fiat) currency and only borrows in its own currency, that country has attained monetary sovereignty. **Countries with monetary sovereignty, then, don't have to manage their budgets as a household would.** They can use their currency-issuing capacity to pursue policies aimed at maintaining a full employment economy. (pp. 18–19, bold added)

Countries with a “high degree of monetary sovereignty” include “the US, Japan, the UK, Australia, Canada, and many more” (p. 19) (And notice that even these countries weren't “sovereign” back in the days of the gold standard, because they had to be careful in issuing currency lest they run out of gold.) In contrast, countries today like Greece and France are *not* monetarily sovereign, because they no longer issue the drachma and franc, but instead adopted the euro as their currency.

The insistence on issuing debt in their own currency helps to explain away awkward cases such as Venezuela, which is suffering from hyperinflation and yet has the ability to issue its own currency. The answer (from an MMT perspective) is that Venezuela had a large proportion of its foreign-held debt denominated in US dollars, rather than the bolivar, and hence the Venezuelan government couldn't simply print its way out of the hole.<sup>1</sup> In contrast, so goes the MMT argument, the US government owes its debts *in US dollars*, and so never need worry about a fiscal crisis.

## YES, KELTON KNOWS ABOUT INFLATION

At this stage of the argument, the obvious retort for any post-pubescent reader will be, “But what about inflation?!” And here's where the critic of MMT needs to be careful. Kelton repeatedly stresses throughout her book—and I've seen her do it in interviews and even on Twitter—that printing money is *not* a source of

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<sup>1</sup> See, e.g., Brown (2019).

unlimited real wealth. She (and Warren Mosler too, as he explained when I interviewed him on my podcast<sup>2</sup>) understands and warns her readers that if the federal government prints too many dollars in a vain attempt to fund too many programs, then the economy will hit its genuine resource constraint, resulting in rapidly rising prices. As Kelton puts it:

Can we just print our way to prosperity? Absolutely not! **MMT is not a free lunch. There are very real limits, and failing to identify—and respect—those limits could bring great harm.** MMT is about distinguishing the real limits from the self-imposed constraints that we have the power to change. (p. 37, bold added)

In other words, when someone like Alexandria Ocasio-Cortez proposes a Green New Deal, from an MMT perspective the relevant questions are *not*, “Can the Congress afford such an expensive project? Will it drown us in red ink? Are we saddling our grandchildren with a huge credit card bill?” Rather, the relevant questions are, “Is there enough slack in the economy to implement a Green New Deal without reducing other types of output? If we approve this spending, will the new demand largely absorb workers from the ranks of the unemployed? Or will it siphon workers away from existing jobs by bidding up wages?”

## THE FUNDAMENTAL PROBLEM WITH MMT

Now that we’ve set the table, we can succinctly state the fundamental problem with Kelton’s vision: Regardless of what happens to the “price level,” monetary inflation transfers real resources away from the private sector and into the hands of political officials. If a government project is deemed unaffordable according to conventional accounting, then it should also be denied funding via the printing press.

What makes MMT “cool” is that it’s (allegedly) based on a fresh insight showing how all of the mainstream economists and bean counters are locked in old habits of thought. Why, these fuddy-duddies keep treating Uncle Sam like a giant corporation, where

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<sup>2</sup> See Murphy (2019b).

he has to make ends meet and always satisfy the bottom line. In contrast, the MMTers understand that the feds can print as many dollars as they want. It's not revenue but (price) inflation that limits the government's spending capacity.

I hate to break it to Kelton and the other MMT gurus, but economists—particularly those in the free-market tradition—have been teaching this for decades (and perhaps centuries). For example, here's Murray Rothbard in his 1962 treatise, *Man, Economy, and State*:

At this time, let us emphasize the important point that government cannot be in any way a fountain of resources; all that it spends, all that it distributes in largesse, it must first acquire in revenue, i.e., it must first extract from the "private sector." **The great bulk of the revenues of government, the very nub of its power and its essence, is taxation, to which we turn in the next section. Another method is inflation,** the creation of new money, which we shall discuss further below. A third method is borrowing from the public.... (Rothbard 1962, 913–14, bold added)

To repeat, this is standard fare in the lore of free-market economics. After explaining that government spending programs merely return resources to the private sector that had previously been taken from it, the economist will inform the public that there are three methods by which this taking occurs: taxation, borrowing, and inflation. The economist will often add that government borrowing can be considered merely *deferred* taxation, while inflation is merely *hidden* taxation.

And it's not merely that inflation is equivalent to taxation. No, because it's harder for the public to understand what's happening when government money-printing makes them poorer, there is a definite sense in which standard taxation is "honest" whereas inflation is insidious. This is why Ludwig von Mises considered inflationary finance to be "essentially antidemocratic" (Mises [1944] 2010, 252): the printing press allows the government to get away with spending that the public would never agree to explicitly pay for, through straightforward tax hikes.

Kelton and other MMT theorists argue that inflation isn't a problem right now in the US and other advanced economies, and so we don't need to be shy about cranking up the printing press. But whether or not the Consumer Price Index is rising at an "unacceptably" high

rate, it is a simple fact that when the government prints an extra \$1 million to finance spending, then prices (quoted in US dollars) are higher than they otherwise would have been, and people holding dollar-denominated assets are poorer than they otherwise would have been. Suppose that prices would have *fallen* in the absence of government money-printing. Then in this case, everybody holding dollar assets would have seen their real wealth go *up* because of the price deflation. If the government merely prints enough new dollars to keep prices stable, it is still the case that those original dollar-holders end up poorer relative to what otherwise would have happened.

Now to be sure, Kelton and other MMT theorists would object at this point in my argument. They claim that if there is still some “slack” in the economy, in the sense of unemployed workers and factories operating below capacity, then a burst of monetary inflation can put those idle resources to work. Even though the rising prices lead to redistribution, if *total* output is higher, then per capita output must be higher too. So on average, the people still benefit from the inflation, right?

On this score, we simply have a disagreement about how the economy works, and in this dispute I think the Austrians are right while the MMTers are wrong. According to Mises’s theory of the business cycle,<sup>3</sup> the existence of “idle capacity” in the economy doesn’t just fall out of the sky, but is instead the result of the malinvestments made during the preceding boom. So if we follow Kelton’s advice and crank up the printing press in an attempt to put those unemployed resources back to work, it will simply set in motion another unsustainable boom/bust cycle. In any event, in the real world, government projects financed by inflation will not merely draw on resources that are currently idle, but will also siphon at least *some* workers and raw materials out of other, private-sector outlets, as I elaborate elsewhere (Murphy 2019b).

In summary, the fundamental “insight” of MMT—namely, that governments issuing fiat currencies need only fear price inflation, not insolvency—is something that other economists have acknowledged for decades. Where the MMTers *do* say something

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<sup>3</sup> See Murphy (2020b).

different is when they claim that printing money only carries an opportunity cost when the economy is at full employment. But on this point, the MMTers—like their more orthodox cousins, the Keynesians—are simply wrong (Murphy 2009).

## TOUGH QUESTIONS FOR MMT

A standard rhetorical move is for proponents to claim that MMT is not ideological, but merely describes how a financial system based on fiat money actually works. (For example, this was the lead argument Mike Norman used when he and I were dueling with YouTube videos.<sup>4</sup>) Yet since so much hinges on whether a government has “monetary sovereignty,” it’s amazing that the MMTers never seem to ask *why* some governments enjoy this status while others don’t.

For her part, Kelton criticizes certain non-monetarily-sovereign governments for particular actions, such as joining a currency union (p. 145), but she doesn’t ask the basic question: Once an MMT economist explains its benefits, why doesn’t *every* government on earth follow the criteria for becoming a monetary sovereign? Indeed, why don’t all of us *as individuals* issue our own paper notes—in my case, I’d print RPMs, which has a nice ring to it—and furthermore only borrow from lenders in our own personal currencies? That way, if you fell behind in your mortgage payments, you could simply print up more of your own personal notes to get current with the bank.

Posed in this way, these questions have obvious answers. The reason Greece adopted the euro, and Venezuela borrows so much in US-dollar-denominated debt, and the reason I use dollars rather than conducting transactions in RPMS, is that the rest of the financial community is very leery of the Greek drachma, the Venezuelan bolivar, or the Murphyian RPM note. Consequently, the Greek and Venezuelan governments, as well as me personally, all subordinated our technical freedom to be “monetary sovereigns” and violated one or more of Kelton’s criteria.

In short, the reason most governments (including *state* governments in the US) in the world aren’t “monetary sovereigns” is that members of the financial community are worried that they would abuse a

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<sup>4</sup> See, e.g., Murphy (2013).

printing press. The Greek government knew its economy would receive more investment, and it would be able to borrow on cheaper terms, if it abandoned the drachma and adopted the euro. The Venezuelan government knew it could obtain much larger “real” loans if they were denominated in a relatively hard currency like the USD, rather than the Venezuelan currency which could so readily be debased (as history has shown). And I personally can’t interest *anybody* in financial transactions involving my authentic RPM notes, and so reluctantly I have to join the dollar-zone.

Now that we’ve covered this basic terrain, I have a follow-up question for the MMT camp: What would it take for a government to *lose* its monetary sovereignty? In other words, of those governments that are currently monetary sovereigns, what would have to happen in order for the governments to start borrowing on foreign currencies, or tie their own currency to a redemption pledge, or even to abandon their own currency and embrace one issued by a foreign entity?

Here again the answer is clear: A government that engaged too recklessly in monetary inflation—thus leading investors to shun that particular “sovereign” currency—would be forced to pursue one or more of these concessions in order to remain part of the global financial community. Ironically, current monetary sovereigns would run the risk of forfeiting their coveted status if they actually followed Stephanie Kelton’s policy advice.

## MMT IS ACTUALLY WRONG ABOUT MONEY

For a framework that prides itself on neutrally describing the actual operation of money and banking since the world abandoned the gold standard, it’s awkward that MMT is simply *wrong* about money. In this section I will summarize three of the main errors Kelton makes about money.

### Money Mistake #1: The Treasury Needs Revenue Before It Can Spend

A bedrock claim of the MMT camp is that unlike individuals and Walmart, the US Treasury doesn’t need to have money before



spending it. Here's an example of Kelton laying out the MMT description of government financing:

Take military spending. In 2019, the House and Senate passed legislation that increased the military budget, approving \$716 billion.... There was no debate about how to pay for the spending.... Instead, Congress committed to spending money it did not have. It can do that because of its special power over the US dollar. Once Congress authorizes the spending, agencies like the Department of Defense are given permission to enter into contracts with companies like Boeing, Lockheed Martin, and so on. **To provision itself with F-35 fighters, the US Treasury instructs its bank, the Federal Reserve, to carry out the payment on its behalf. The Fed does this by marking up the numbers in Lockheed's bank account. Congress doesn't need to "find the money" to spend it. It needs to find the votes! Once it has the votes, it can authorize the spending. The rest is just accounting. As the checks go out, the Federal Reserve clears the payments by crediting the sellers' account with the appropriate number of digital dollars, known as bank reserves.** That's why MMT sometimes describes the Fed as the scorekeeper for the dollar. The scorekeeper can't run out of points. (Kelton, p. 29, bold added)

For a more rigorous, technical treatment, the advanced readers can consult Kelton's peer-reviewed journal article from the late 1990s on the same issues (Bell 2000).<sup>5</sup> Yet whether we rely on Kelton's pop book or her technical article, the problem for the MMTers is still there: Nothing in their description is unique to the US Treasury.

For example, when I write a personal check for \$100 to Jim Smith who also uses my bank, we could explain what happens like this: "Murphy *instructed* Bank of America to simply add 100 digital dollars to the account of Jim Smith." Notice that this description is exactly the same thing that Kelton said about the Treasury buying military hardware in the block quotation above.

Now of course, I can't spend an *unlimited* amount of dollars, since I am a currency user, not a monetary sovereign. In particular, if I "instruct" Bank of America to mark up Jim Smith's checking account balance by more dollars than I have in my *own* checking account, the bank may ignore my instructions. Or, if my overdraft isn't too large, the bank might go ahead and honor the transaction,

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<sup>5</sup> Bell (2000) is the published journal article, but future references to this work will refer to Bell (1998), an earlier draft which is not behind a paywall.

but then show I have a negative balance (and charge me an Insufficient Funds fee on top of it).

The only difference between my situation and the US Treasury's is that I actually have overdrawn my checking account, whereas the U.S. Treasury hasn't had the legal option of doing so since 1981—and even before then, the Treasury only exercised the option rarely, and out of convenience not necessity.<sup>6</sup> Indeed, Kelton's own journal article (Bell 1998, 11, Fig. 4) shows that the Treasury consistently maintained (as of the time of her research) a checking account balance around \$5 billion, and that the daily closing amount never dipped much below this level.

Indeed, the Treasury itself sure acts as if it needs revenue before it can spend. That's why the Treasury Secretary engages in all sorts of fancy maneuvers<sup>7</sup>—such as postponing contributions to government employees' retirement plans—whenever there's a debt ceiling standoff and Uncle Sam hits a cash crunch.

The MMTers take it for granted that if the Treasury ever actually tried to spend more than it contained in its Fed checking account balance, that the Fed would honor the request. Maybe it would, and maybe it wouldn't; CNBC's John Carney (who moderated the debate at Columbia University between MMT godfather Warren Mosler and me [Modern Money Network 2013]) thinks it's an open question in terms of the actual legal requirements, though Carney believes in practice the Fed would go ahead and cash the check.

Yet, to reiterate, at least going back to 1981 the Treasury hasn't spent money that it didn't already have sitting in its checking account. The MMT camp would have us believe that there is something special occurring day in and day out when it comes to Treasury spending, but they are simply mistaken: so far at least, the Treasury has never dared the Fed by overdrawing its account.

Indeed, Kelton herself in her technical article from the late 1990s implicitly gives away the game when she defends the MMT worldview in this fashion:

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<sup>6</sup> For the history of the Treasury's overdraft privileges see: <https://www.alt-m.org/2019/03/05/on-empty-purses-and-mmt-rhetoric/>

<sup>7</sup> See Gudmundson (2011).

[S]ince the government's balance sheet can be considered on a *consolidated* basis, given by the sum of the Treasury's and Federal Reserve's balance sheets with offsetting assets and liabilities simply canceling one another out... the sale of bonds by the Treasury to the Fed is simply an internal accounting operation, providing the government with a self-constructed spendable balance. Although *self-imposed* constraints may prevent the Treasury from creating *all* of its deposits in this way, there is no real limit on its *ability* to do so. (Kelton 1998, 16, italics in original)

What Kelton writes here is true, but by the same token, we can consider the Federal Reserve and Goldman Sachs balance sheets on a consolidated basis. If we do that, then Goldman Sachs can now spend an infinite amount of money. Sure, its accountants might still construct profit and loss statements and warn about bad investments, but these are *self-imposed* constraints; so long as the Fed in practice will honor any check Goldman Sachs writes, then all overdrafts are automatically covered by an internal loan from the Fed to the investment bank. The only reason this *wouldn't* work is if the Fed actually stood up to Goldman and said "No." But that's exactly what the situation is with respect to the Treasury too.

Whenever I argue the merits of MMT, I debate whether or not to bring up this particular quibble. In practice, it would be very naïve to think the Fed actually enjoys "independence" from the federal government that grants the central bank its power. And I for one think that the various rounds of quantitative easing (QE) were not *merely* driven by a desire to minimize the output gap, but instead were necessary to help monetize the boatload of debt incurred during the Obama years. (Of course Trump and Powell are doing a similar dance.)

Even so, I think it is important for the public to realize that the heroes of MMT are misleading them when they claim there is something unique to Uncle Sam in the way he interacts with his banker. So far, this is technically not the case. Even when the Fed has clearly been monetizing new debt issuance—such as during the world wars—all of the players involved technically went through the motions of having the Treasury *first* float bonds in order to fill its coffers with borrowed funds, and only *then* spending the money. The innocent reader wouldn't know this if he or she relied on the standard MMT accounts of how the world works.

## Money Mistake #2: Taxes Don't Prop Up Currencies

Another central mistake in the MMT approach is its theory of the origin and value of money.<sup>8</sup> To set the stage, here is Kelton explaining how Warren Mosler stumbled upon the worldview that would eventually be dubbed Modern Monetary Theory:

Mosler is considered the father of MMT because he brought these ideas to a handful of us in the 1990s. He says... it just struck him after his years of experience working in financial markets. He was used to thinking in terms of debits and credits because he had been trading financial instruments and watching funds transfer between bank accounts. One day, he started to think about where all those dollars must have originally come from. It occurred to him that before the government could subtract (debit) any dollars away from us, it must first add (credit) them. He reasoned that spending must have come first, otherwise where would anyone have gotten the dollars they needed to pay the tax? (Kelton, p. 24)

This MMT understanding ties in with its view of the origin and money, and how *taxes* give money its value. Kelton explains by continuing to summarize what she learned from Mosler:

[A] currency-issuing government wants something real, not something monetary. It's not our tax money the government wants. It's our time. To get us to produce things for the state, the government invents taxes... This isn't the explanation you'll find in most economics textbooks, where a superficial story about money being invented to overcome the inefficiencies associated with bartering... is preferred. In that story, money is just a convenient device that sprang up organically as a way to make trade more efficient. Although students are taught that barter was once omnipresent, a sort of natural state of being, scholars of the ancient world have found little evidence that societies were ever organized around barter exchange.

MMT rejects the ahistorical barter narrative, drawing instead on an extensive body of scholarship known as chartalism, which shows that taxes were the vehicle that allowed ancient rulers and early nation-states to introduce their own currencies, which only later circulated as a medium of exchange among private individuals. From inception, the tax liability creates people looking for paid work...in the government's

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<sup>8</sup> If you want to see the Austrian view, see Murphy (2003) on the contributions of Menger and Mises.

currency. The government... then spends its currency into existence, giving people access to the tokens they need to settle their obligations to the state. **Obviously, no one can pay the tax until the government first supplies its tokens. As a simple point of logic, Mosler explained that most of us had the sequencing wrong. Taxpayers weren't funding the government; the government was funding the taxpayers.** (Kelton, pp. 26–27, bold added)

I have included these lengthy quotations to be sure the reader understands the superficial appeal of MMT. Isn't that intriguing—Mosler argues that the *government* funds the *taxpayers*! And when you think through his simple point about debits and credits, it seems that he isn't just *probably* correct, but that he *must* be correct.

Again, it's a tidy little demonstration; the only problem is that it's demonstrably false. It is simply not true that dollars were invented when some autocratic ruler out of the blue imposed taxes on a subject population, payable only in this new unit called "dollar." The MMT explanation of where money comes from doesn't apply to the dollar, the euro, the yen, the pound... Come to think of it, I don't believe the MMT explanation applies even to a single currency issued by a monetary sovereign. All of the countries that currently enjoy monetary sovereignty have built their economic strength and goodwill with investors by relying on a history of *hard money*.

In a review of Kelton's book, I'm not going to delve into the problems with the alleged anthropological evidence that purportedly shows ancient civilizations used money that was invented by political fiat, rather than money that emerged spontaneously from trade in commodities. For *that* topic, I refer the interested reader to my review of David Graeber's book (Murphy 2012).

Yet let me mention before leaving this subsection that the MMT story *at best* only explains why a currency has a nonzero value; it does not explain the actual amount of its purchasing power. For example, if the IRS declares that every US citizen must pay \$1,000 in a poll tax each year, then it's true, US citizens will need to obtain the requisite number of dollars. But they could do so whether the average wage rate is \$10 per hour or \$10,000 per hour, and whether a loaf of bread costs \$1 or \$1,000.

Furthermore, other things equal, if the government lowers tax rates, then it *strengthens* the currency. That's surely part of the reason

that the US dollar rose some 50 percent against other currencies after the tax rate reductions in the early Reagan years.<sup>9</sup> So the MMT claim that taxes are necessary, *not* to raise revenue (we have a printing press for *that*), but to prop up the value of the currency, is at best seriously misleading.

### Money Mistake #3: Debt Isn't Money

Amazingly, even though their system claims to explain how money works, the MMTers apparently don't know the simple difference between *money* and *debt*. Here's Kelton trying to defuse hysteria over the national debt:

The truth is, we're fine. The debt clock on West 43<sup>rd</sup> Street simply displays a historical record of how many dollars the federal government has added to people's pockets without subtracting (taxing) them away. Those dollars are being saved in the form of US Treasuries. If you're lucky enough to own some, congratulations! They're part of your wealth. While others may refer to it as a *debt* clock, it's really a US dollar *savings* clock. (Kelton, pp. 78–79.)

To drive home the equivalence of US Treasuries and dollars, shortly afterward Kelton says, "Heck, I don't even think we should be referring to the sale of US Treasuries as borrowing or labeling the securities themselves as the national debt. It just confuses the issue and causes unnecessary grief" (p. 81).

For an even starker illustration of the MMT confusion between debt and money, consider Kelton's approving quotations of a thought experiment from Eric Loneragan, who asked, "What if Japan monetized 100% of outstanding JGBs [Japanese government bonds]?" That is, what if the Bank of Japan issued new money in order to buy up every last Japanese government bond on earth? Loneragan argues "nothing would change" because the private sector's *wealth* would be the same; the BOJ would have engaged in a mere asset swap. In fact, because their interest income would now be lower while their wealth would be the same, people in the private sector would spend *less* after the total debt monetization, according to Loneragan.

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<sup>9</sup> See FRED, "Trade-Weighted U.S. Dollar Index: Major Currencies, Goods" (DTWEXM): <https://fred.stlouisfed.org/series/DTWEXM>.

In response to these observations, I make two simple points: First, one can't spend Treasury securities or Japanese government bonds in the grocery store. That's why money and debt are different things.

Second, if Kelton were right and the US national debt were a tally of how many dollars on net the government has "spent into existence," then when Andrew Jackson *paid off* the national debt, the American people would have had no money—the last dollar would have been destroyed. And yet even Kelton doesn't claim that dollars were temporarily banished from planet Earth. She merely claims that Jackson's policy caused a depression.<sup>10</sup>

## DO GOVERNMENT DEFICITS EQUAL PRIVATE SAVINGS?

In Chapter 4, Kelton lays out the MMT case that government deficits, far from "crowding out" private sector saving, actually are the sole *source* of net private assets. Using simple accounting tautologies, Kelton seems to demonstrate that the only way the nongovernment sector can run a fiscal surplus, is if the government sector runs a fiscal deficit.

Going the other way, when the government is "responsible" by running a budget surplus and starts paying down its debt, by sheer accounting we see that this must be reducing net financial assets held by the private sector. (This is why it should come as no surprise, Kelton argues, that every major government surplus led to a bad recession. [p. 96])

In the present review, I won't carefully review and critique this particular argument, as I've done so earlier (Murphy 2019a). Suffice it to say, one could replace "government" in the MMT argument with any other entity and achieve the same outcome. For example, if Google borrows \$10 million by issuing corporate bonds and then it spends the money, then the net financial assets held by The-World-Except-Google go up by precisely \$10 million. (Or rather, the way one would define terms in order to make these claims true, is the same way Kelton gets the MMT claims about Uncle Sam to go through.) So did I just prove something really important about Google's finances?

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<sup>10</sup> For the Austrian take on this historical episode, see Sanchez (2009).

Obviously something is screwy here. Using standard definitions, people in the private sector can save, and even accumulate net financial wealth, without considering the government sector at all. (This is all spelled out in Murphy [2020a]). For example, Robinson Crusoe on his deserted island can “save” out of his coconut income in order to finance his investment of future labor hours into a boat and net. Even if we insist on a modern financial context, individuals can issue shares of equity in new corporations, thus acquiring assets that don’t correspond to a “debit” of anyone else.

It is a contrived and seriously misleading use of terminology when MMT proponents argue that government deficits are a source of financial wealth for the private sector. Forget the accounting and look at the big picture: Even if the central bank creates a new \$1 million and hands it to Jim Smith, it hasn’t made the community \$1 million richer except in the sense that we could all be millionaires with this practice. There aren’t any more houses or cars or acres of arable farmland available. Printing new money doesn’t make the community richer—at best it’s a wash with redistribution—and in fact in practice it makes the community poorer by distorting the ability of prices to guide economic decisions.

## THE MMT JOB GUARANTEE

The last item I wish to discuss is the MMT job guarantee. Strictly speaking, this proposal is distinct from the general MMT framework, but in practice I believe every major MMT theorist endorses some version of it.

Under Kelton’s proposal, the federal government would have a standing offer to employ any worker at \$15 per hour (p. 68). This would set a floor against all other jobs; Kelton likens it to the Federal Reserve setting the federal funds rate, which then becomes the base rate for every other interest rate in the economy.

Kelton argues that her proposal would eliminate the unnecessary slack in our economic system, where millions of workers languish in involuntary unemployment. Furthermore, she claims her job guarantee would raise the long-term productivity of the workforce and even help people find better *private sector* job placement. This is because currently, “Employers just don’t want to take a chance on hiring someone who has no recent employment record” (p. 68).



There are several problems with this proposal. First of all, why does Kelton assume it would only draw workers out of the ranks of the unemployed? For example, suppose Kelton set the pay at \$100 per hour. Surely even she could see the problem here, right? Workers would be siphoned out of productive, private sector employment and into the government realm, providing dubious service at best at the direction of political officials.

Second, why would employers be keen on hiring someone who has spent, say, the last three years working in the guaranteed job sector? This would be, by design, the cushiest jobs in America. Kelton admits this when she says the base wage rate would be the *floor* for all other jobs.

Looking at it another way, it's not really a job *guarantee* if it's difficult to maintain the position. In other words, if the people running the federal jobs program are allowed to fire employees who show up drunk or who are simply awful workers, then it's no longer a guarantee.

## CONCLUSION

Stephanie Kelton's new book *The Deficit Myth* does a very good job explaining MMT to new readers. I must admit that I was pleasantly surprised at how many different topics Kelton could discuss from a new view, in a manner that was simultaneously absurd and yet apparently compelling.

The problem is that Kelton's fun book is utterly wrong. The boring suits with their standard accounting are correct: It actually costs something when the government spends money. The fact that since 1971 we have had an unfettered printing press doesn't give us more options. It merely gives the Fed greater license to cause boom/bust cycles and redistribute wealth to politically connected insiders.

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