邹恒甫学术论文集

宏观、财政、金融、增长

（第一卷）

邹恒甫 / 著

人民东方出版传媒
東方出版社

宏观，财政，金融，增长

（第一卷）

邹恒甫 / 著

人民东方出版传媒
東方出版社

图书在版编目（CIP）数据

宏观，财政，金融，增长. 1 ：英文 /邹恒甫 著. —北京：东方出版社，2013. 8
ISBN 978-7-5060-6769-0

Ⅰ. ①宏… Ⅱ. ①邹… Ⅲ. ①经济学-文集-英文 Ⅳ. ①F0-53

中国版本图书馆 CIP 数据核字（2013）第 205489 号

宏观，财政，金融，增长（第一卷）
（HONGGUAN，CAIZHENG，JINRONG，ZENGZHANG）
作　　者：邹恒甫
责任编辑：徐　玲　龚　雪
出　　版：东方出版社
发　　行：人民东方出版传媒有限公司
地　　址：北京市东城区朝阳门内大街 166 号
邮政编码：100706
印　　刷：北京中科印刷有限公司
版　　次：2013 年 11 月第 1 版
印　　次：2013 年 11 月第 1 次印刷
开　　本：787 毫米×1092 毫米　1/16
印　　张：34. 25
字　　数：510 千字
书　　号：ISBN 978-7-5060-6769-0
定　　价：98. 00 元
发行电话：（010）65210056　65210060　65210062　65210063

作者简介

邹恒甫，中国经济学第一人。中央财经大学、武汉大学、北京大学教授，世界银行研究部终身高级经济学家。两次获国家自然科学基金委员会杰出青年基金，首批社科长江教授，中组部首批千人计划教授。新中国首位哈佛大学经济学博士。著有《最后的狂人》等。

前 言

收集在《宏观，财政，金融，增长》三卷本里的论文是我与我的合作者二十年来发表的主要学术成果。我在哈佛大学读经济学硕士与博士时（1983—1989年），自己从来没有想到要在国外学术期刊发表论文，因为我一直打算拿到博士就回武汉大学当老师。1989年，一个偶然的机会让我进了世界银行研究部，正像1983年一个偶然的机会让我去了哈佛大学，更像1977年一个偶然的机会让我上了武汉大学。在世界银行研究部，最主要的任务是发表论文和写各国经济调研报告。如此，我就被逼迫着写论文、发论文。现在看来，只要有压力，人人都能发表国际论文。说真的，越笨的人发表得越多，而越聪明的人越会去投机当社会经济政治各方面的混混，尤其是到中国同流合污地摸钱摸权摸女人。

这三卷论文涵盖了众多方面：地方财政的动态模型；政府开支的结构；政府税收的结构；中央政府与地方政府的财政关系；财政联邦制度；财政分权；财政开支与经济增长；多级政府的最优税收结构和转移支付；公共资本的提供；收入分配的历史与实现；收入分配与经济增长的关系；收入不平等的原因；资本主义精神与储蓄、增长和资产定价；资本主义精神与货币及增长；金融与增长及收入分配；社会地位与生产条件下的资产定价；腐败、增长与经济增长；开放经济的货币政策；国际收支平衡的短期模型；美元化与通货膨胀税；国际贸易、国际收支平衡与重商主义；重商主义与国家发展富强的历史与现实；外国援助与国际债务；外国援助与发展中国家的经济发展；军事开支，武器积累与经济发展的关系；武器与资本积累的确定性模型与随机模型等。这三卷论文还有众多对中国经济各方面的分析与经济体制的比较。

这些论文的共同点就是造反与标新立异。我从来就不愿意接受现有的结论，哪怕对效用函数只定义在消费上都绝对不能忍受，因为资产阶级的首要目的是积累财富。我还为重商主义平反，为非生产性公共开支叫好。在新模型和实证分析

的基础之上，我反对财政分权定理，反对外国援助会刺激穷国经济增长的共识，反对快速增长会减少贫富差别的老调，反对货币超中性定理等。

我特别强调，这三卷论文的许多理论与实证分析说明，发展中国家特别是中国在教育、卫生、社会保障、法治、社会治理等方面欠账太多。把巨额的政府开支用于基础设施还不如花在教育、医疗、养老保险和幼儿保险等方面。这些都有助于促进人力资本更优地形成。而人力资本远比投资“铁公基”的物质资本重要。如果中国政府在教育、医疗、社会保障各方面的政府支出都占到 GDP 的 6%，加起来就是 18%，那就跟中等发达国家的国际标准比较接近了。如果每一项都达到 GDP 的 8%，总计就是 24%，那就跟美国接近了。如果赶上北欧、西欧和加拿大，每项都达到 GDP 的 10% 以上，那中国就可以实现免费医疗、免费教育和免费社保了。这其实是一个民主的进程，也是发达国家在一百多年来“自发形成的秩序”（但愿哈耶克不要在墓地里气得发抖啊）。

在此我衷心地感谢我的众多论文合作者：没有他们最热心的帮助与最无私的奉献，这三卷论文的发表是不可能的。

这三卷论文集的编辑徐玲要我给大学生、研究生和博士生多谈点我自己怎么开始写论文的经历，我不妨在此试试。我本人认为，人在 20 岁至 30 岁之间是最有稀奇古怪想法的时候。我自己在 1987 年 25 岁时最喜欢狂想。

例如，在学习了 Cash-in-Advance Models 后，我马上写了一篇 Credit-in-Advance Model：信用越多，购买越方便甚至越多，而购买货物使用的现金（cash）就越少。但一个人信用多的基础是什么？当然是一个人所拥有的财富或资本。如此，通货膨胀率越高，大家用现金购买的货物越少，而大家都会多用信用卡购物，也就是说，大家会多积累财富或资本。这也是否定货币超中性定理的一个简单办法。我写的此文一直没有发表，但我自己还是得意的。后来我看了卢卡斯（Robert Lucas）和斯托基（Nancy Stokey）合写的一篇论文，把货物购买分成现金产品（cash goods）与信用产品（credit goods），我自然地意识到：名人的想法也被我想到了。哈哈。后来我的许多学生说他们的模型被名人都用过了。我听到后总是回答：“如果不是如此那就证明你太有才了！”

再举一例。在科尔奈（Janos Kornai）的短缺经济学里，他不厌其烦地唠叨计划经济中投资扩张与短缺严峻的周期关系。我很快给他写出了社会主义计划委员会选择投资率与短缺程度的动态最优化模型，并得出了投资率与短缺的周期微分方程的显示解。科尔奈教授看了我的文章，他问我是如何学会动态优化方法的。我回答：“就在研究生的课堂里学的。”后来，我意识到，年岁稍长的大数理经济学家往往也不学动态优化和动态规划，而他们仅仅停留在线性规划与非线性规

划的水平上。这也是费尔德斯坦（Martin Feldstein）的毛病。

我还要回顾一下定义在消费和资本积累两个元素上的效用函数。当我写博士论文时，我把这种效用函数定义为我自己从1978年至1982年长期学习的马克思（Karl Marx）《资本论》的效用函数：资本家积累的目的主要是为积累而积累，消费不过是一个附带品。在哈佛学习经济学与数学的同时，我对韦伯（Max Weber）与桑巴特（Werner Sombart）等许多社会学家、历史学家也很痴迷，特别是关注他们关于新教伦理与资本主义起源抑或犹太教与资本主义起源的大争论。我同我的论文指导小组组长萨克斯（Jeffrey Sachs）讨论了这一博士论文的大致内容，他非常鼓励我并马上指出凯恩斯（John Maynard Keynes）《和约的经济后果》里关于资本主义本质的论述。萨克斯继续说道："用韦伯的资本主义精神模型还可以在美国卖得出去，用马克思的资本的本质模型只怕不好卖啊。"

我那时候很听话，把我的博士论文里的六篇论文合起来命名为《资本积累的一个新实证（positive）模型》。言外之意是说：所有只定义在消费上的效用函数基础上的增长模型是规范的（normative）、不合实际的、强加于人的和虚妄的东西。当我写作博士论文时，我开始注意到库尔茨（Mordecai Kurz）1968年在《国际经济评论》（*International Economic Review*）上发表的资本财富效应模型，此模型认为社会主义计划委员会同样关注消费与资本积累。而在库尔茨之前，杜森贝里（James Duesenberry）在他1948年出版的博士论文里就把效用函数定义在消费、收入与财富三者之上！我很惊讶，无论自己如何疯狂地想象，我的确逃不出前人的魔掌。哈哈大笑。

1989年6月6日我得到博士学位。之后，我的阅读更加广泛。首先，我看到了马加姆达（Mukul Majumdar）和米特拉（Tapan Mitra）在《经济理论》（*Economic Theory*）上发表的用离散动力系统方法得到的惊人结果：他们在库尔茨的模型里证明了周期和混沌的存在。接下来，我很快看到了巴克西（Gurdip Bakshi）与陈志武在《美国经济评论》上发表的资本主义精神和股市资产定价的好论文！

说到底，我似乎也极难把自己写论文的具体感受告诉大家。这其中味道只有《庄子》里讲得最好：

桓公读书于堂上，轮扁斫轮于堂下，释椎凿而上，问桓公曰："敢问公之所读者，何言邪？"公曰："圣人之言也。"曰："圣人在乎？"公曰："已死矣。"曰："然则君之所读者，古人之糟粕已夫！"桓公曰："寡人读书，轮人安得议乎！有说则可，无说则死！"轮扁曰："臣也以臣之事观之。斫轮，徐则甘而不固，疾则苦而不入，不徐不疾，得之于手而应于心，口不能言，有数存乎其间。

臣不能以喻臣之子，臣之子亦不能受之于臣，是以行年七十而老斫轮。古之人与其不可传也死矣，然则君之所读者，古人之糟粕已夫！”

伟大的萨缪尔森（Paul Samuelson）说过：一个人中断发表论文是在犯罪。他一辈子直到逝世还在写作、发表论文。但是，太多的中国经济学者与外国经济学者都过早地中断了他们的论文发表生涯。我希望学习了中级经济学的大学生、研究生和博士生看尽这三卷论文之糟粕，体会到庄子寓言的精妙，尽快地写出自己的好论文。如果有足够的压力，这是极容易做到的。邹恒甫都会发国际论文，哪个中国学生还不会呢？如果不搞“钱权色学”四位一体，那不知要发表多少新理论和论文啊！

邹恒甫

2013 年 7 月 11 日

Contents 目 录

第 1 章

联邦拨款对地方政府支出的动态影响

JOURNAL OF URBAN ECONOMICS 36, 98–115 (1994)

Dynamic Effects of Federal Grants on Local Spending

HENG-FU ZOU[1]

Public Economics Division, Policy Research Department, The World Bank, Washington, DC 20433

Received February 16, 1993; revised June 11, 1993

In a dynamic model of local government spending, this paper examines both long-run and short-run effects of permanent federal grant changes on local public investment and recurrent expenditures. It also utilizes the Judd approach to quantify the short-run effects of temporary (current and future) policy shocks. The interesting, perhaps surprising, findings are: (1) a permanent increase in the matching grants for investment and recurrent expenditures may accelerate or slow down public investment and (2) a current, temporary grant increase stimulates current public investment, but a temporary, future increase in the nonmatching grant reduces current investment and raises current recurrent expenditures.

I. INTRODUCTION

The effects of intergovernmental grants have been studied extensively in both the theoretical and the empirical literature; see Wilde [11, 12], Gramlich [3], Gramlich and Galper [4], Inman [5], Mieszkowski and Oakland [9], and Rosen [10], among many others. Most of the studies have modeled local (including state, metropolitan, county, and town) government behavior in a static, utility maximization framework. The responses of local spending to federal grants are typically divided into the income effect and the price (substitution) effect. While Gramlich and Galper [4] offered, to our knowledge, the first and the only dynamic analysis to include local capital services in a general equilibrium model, their model specification is limited to a quadratic utility function; the properties of their dynamic model such as stability and comparative statics are not worked out, and the short-run effects versus the long-run effects of changes in federal grants are not examined.

It goes without saying that a dynamic approach to the effects of intergovernmental grants is well justified. First of all, local government spending is readily divided into recurrent expenditures and local public

[1]I thank Richard Bird, Shantayanan Devarajan, Gunnar Eskeland, and especially Anwar Shah for discussions in writing this paper. In revising this paper, I am indebted to Jan Brueckener and two anonymous referees for their suggestions and help. All remaining errors are mine. The opinions expressed here are soley mine and not of the World Bank.

0094-1190/94 $6.00

capital formation or investment. Local public investment often takes the tangible form of roads, buildings, streetlights, water supply, and highways; it also takes the intangible form of human capital development such as education financing, provision of health services, and maintenance of public security and order. Federal transfers to local governments are often provided through various grants tied to different items in recurrent expenditures and capital expenditures. In the United States, federal aid to state and local governments has been largely categorical grants designed to support closely specified programs in localities. Many of those categorical grants are related to local public investment. For example, in recent years, grants on highways accounted for about 11.6% of total federal aid to localities; grants on housing and education together accounted for about another 23.7%. How does one identify the effects of these grants on local public investment? Obviously, due to the time-to-build property of capital formation, the static framework used in most of the existing literature is not well suited to deal with this question. Only when studied in a dynamic model of local capital accumulation can the effects of federal grants on both local public investment and recurrent expenditures be identified.

This distinction is of empirical importance, too. A dynamic framework can shed light on the recent policy debate in the United States on the desirability of block grants versus categorical grants. Suppose that the federal government intends to stimulate local investment in response to the alarming deterioration in the nation's infrastructure. It is necessary for policymakers to have a clear idea about the dynamic effects of block or nonmatching grants and categorical or matching grants on local investment. As we will see later, while a matching grant for investment can lead to more local capital formation in the long run, it may even slow down local investment during the transitional period. On the other hand, a nonmatching grant unambiguously raises both the rate of investment in the short run and the capital stock in the long run.

While a dynamic model provides the necessary framework to study both long-run and short-run effects of federal grants on local recurrent expenditures and local investment, it also allows us to distinguish the effects of different grant changes, e.g., a permanent grant change versus a temporary grant change, a current grant change versus a future grant change. In this way, we can see more clearly how the effects of grants are closely related to the timing of grants. From this perspective, we can improve our empirical studies of the effects of intergovernmental grants by explicitly modeling the dynamic behavior of local public investment and by specifying the timing, duration, and expectation of the changes in federal grants.

Motivated by these considerations, this paper represents a formal attempt to model local government behavior within a dynamic framework. In Section II, a dynamic optimization model of a representative local

government is set up, the stability of the dynamic system is analyzed, and the dynamic paths of recurrent expenditures and public investment are characterized. In Section III, we focus on the long-run effects of permanent changes in federal grant policies on local recurrent expenditures and capital formation. We show in particular how different grants affect public investment in the transition to the long-run equilibrium. In Section IV, instead of using phase diagrams to obtain qualitative results, we utilize the Judd [6–8] approach to quantify the short-run effects of temporary grant policy changes on local spending and investment. In addition to summarizing our results in Section V, we also point out directions of further research.

II. THE MODEL

In this paper, local government expenditures are divided into two parts: recurrent expenditures, e, and public investment, I. The representative local government or community has continuously differentiable preferences defined on e and the local public capital stock, k,

$$U(e, k) = u(e) + v(k), \tag{1}$$

with $u'(e) > 0$, $v'(k) > 0$, $u''(e) < 0$, and $v''(k) < 0$. Here $u(e)$ represents the utility from the services of recurrent expenditures and $v(k)$ the utility from the services of the public capital stock. This is the utility function used in Gramlich [3], Arrow and Kurz [1], Gramlich and Galper [4], and Barro [2] among others. The separability of the utility function is assumed for simplicity.

At each time period, the local government collects tax revenues T from its jurisdiction. It also receives the following grants from the federal government: a nonmatching grant g, a matching grant for local public investment αI $(1 > \alpha \geq 0)$, and a matching grant for local recurrent expenditures βe $(1 > \beta \geq 0)$. Thus the budget constraint for the local government is

$$e + I = T + g + \alpha I + \beta e. \tag{2}$$

The accumulation of local public capital is given as

$$\dot{k} = I - \delta k, \tag{3}$$

where δ is the depreciation rate of the local capital stock.

The local government tries to maximize a discounted stream of utility with a positive time discount rate ρ,

$$\int_0^\infty [u(e) + v(k)]\exp(-\rho t)\,dt, \tag{4}$$

subject to constraints (2) and (3). The initial public capital stock is given by k_0.

This is perhaps the simplest dynamic specification of intergovernmental grants and local spending. In this setup, three essential aspects of local government finance are not considered.[2] First, we have assumed away the externality of local public investment on private production as in the models by Arrow and Kurz [1] and Barro [2]. Including private capital accumulation and production in this model is straightforward, but it will make our dynamic analysis, especially the short-run analysis, either much more complicated or intractable. If we consider the dynamics of both local government and private sector independently, we must study this extended model as a differential game played by the local government on one side and the private sector on the other. If we follow the Barro [2] model and consider public investment as an externality to private production, we need to consider the private sector's optimization first and model the reaction function of the private sector as a constraint on the optimization problem of the local government in a dynamic Stackelberg game.

Second, due to the absence of private production in our model, we have taken the nongrant revenues or local own revenues for the typical local government as exogenous. This is another serious limitation of our model. It is clear that local government revenues are closely linked to local production. If public capital is an input to private production in the form of a positive externality, more public capital will attract more business and more business ultimately generates an expanded tax base for the local government. But, in our simple model, the effects of public investment on tax policies and revenues of the local government are ignored.

Third, it is a well-known fact that, at least in the United States, states consider federal grants to be in many cases a nuisance. In fact, the federal government typically decides the amount of the grant (α and β in the model) and the amount of recurrent expenditures and public investment through mandatory spending programs, thereby determining the size of the state's net spending on the whole project. This means that the state may have to settle for a nonoptimal spending level, one which in general will be above what the state would like to pursue. The implication is that

[2] I thank two anonymous referees for pointing out the limitations of the model and for suggesting possible extensions.

other spending projects may be crowded out by federal matching grants on mandatory projects. By treating matching grants very much like an "investment credit," our model is somewhat limited by the fact that the local government is assumed to have complete control over the amount of spending while in reality the decision is often of a second-best nature.

Returning to the analysis of the model, we substitute I from (2) into (3):

$$\dot{k} = (1 - \alpha)^{-1}[T + g - (1 - \beta)e] - \delta k. \tag{5}$$

Thus the model consisting of the objective function in (4) and the dynamic constraint in (5) is analogous to those with an infinitely lived representative agent who can consume now or invest. The expressions $(1 - \alpha)$ and $(1 - \beta)$ are simply "prices" for investment and consumption, and the nonmatching grant g is simply a change in income. From this perspective, our model is essentially an extension of the dynamic analysis of optimal consumption and investment from a representative consumer to a representative local government. Here the control variable is recurrent expenditures e, and the state variable is the stock of public capital k. The dynamic paths of local own revenues and federal grants are exogenously given.

To solve this optimization problem, we first define the current-value Hamiltonian function,

$$H(e, k, \lambda) = u(e) + v(k) + \lambda\{(1 - \alpha)^{-1}[T + g - (1 - \beta)e] - \delta k\}, \tag{6}$$

where λ is the current marginal utility of an extra unit of public capital.

The necessary conditions for an optimum are

$$u'(e)/\lambda = (1 - \beta)/(1 - \alpha), \tag{7}$$

$$v'(k) - \lambda(\delta + \rho) = -\dot{\lambda}, \tag{8}$$

$$\dot{k} = (1 - \alpha)^{-1}[T + g - (1 - \beta)e] - \delta k, \tag{5}$$

and the transversality condition is

$$\lim_{t \to \infty} \lambda(t)k(t)\exp(-\rho t) = 0. \tag{9}$$

We interpret these conditions as follows. Equation (7) says that the marginal rate of substitution between recurrent expenditures and public investment equals their price ratio. Equation (8) is the Euler equation trading off current and future public investment. Equation (5) again is the dynamic budget constraint for the local government.