

April 2015
#7

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Centre d'économie
de l'Université
Paris Nord

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CEPN Policy Brief

The keynesian multiplier in recession: why fiscal stimulus is now even more necessary in the eurozone?

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Abstract:

The Great Recession has revived economic policy debates from the 1930s between the advocates of a balanced budget under all circumstances and the supporters of counter-cyclical fiscal policies. Since 2012, a consensus has emerged that fiscal policy is more effective in recessions than during periods of growth. Now, new studies have explained why fiscal multipliers are usually higher in times of recession. These results confirm the pressing need for fiscal stimulus in Europe.

Following the outbreak of the international financial crisis in 2007, its contamination of the real economy has provoked the “Great Recession”. After the initial consensus in favour of measures to support the economy in 2008-2009, several fierce controversies have developed since 2010 over economic policy recommendations.

The most highly-mediatised of these disputes concerns the possible existence of a maximum debt-to-GDP ratio that countries should not exceed. In a famous article published in 2010, C. Reinhart and K. Rogoff (R&R)¹ concluded that a public debt-to-GDP ratio of more than 90% causes negative growth. This conclusion had extremely important practical consequences: it was considered essential to reduce public debt if it rose above this threshold.

Among other examples, the European Commissioner for Economic and Monetary Affairs O. Rehn and the British Chancellor of the Exchequer G. Osborne had no hesitation in using the results of R&R to justify the fiscal consolidation they considered to be necessary in Europe. Since then, however, the conclusions of R&R have been largely refuted.²

A second controversy has also burst into the lime-light. In January 2013, Blanchard and Leigh acknowledged that the International Monetary

Fund had underestimated the value of fiscal multipliers. This error had in turn led to an underestimation of the negative effect on economic activity of fiscal consolidation policies, pursued in application of R&R's results on the optimum ratios of public debt.

What is the fiscal multiplier?

The fiscal multiplier expresses the relation between variations in public spending or tax revenue and the level of national production.

Since 1936, this macroeconomic mechanism has been associated with J.M. Keynes and The General Theory of Employment, Interest, and Money.³ The higher the value of the multiplier, the greater the impact of government intervention on economic activity. This mechanism is caused by the fact that additional spending in the economy generates income which in turn provokes further spending. However, this virtuous circle is limited by three factors (which prevent the income generated from being entirely spent on domestically-produced goods and services): savings, imports and taxes.

The practical interpretation of this mechanism, according to which an increase in public spending should be considered as an effective instrument to avoid recessions, was soon called into question. Firstly by the “neoclassical synthesis” movement, and then by the “new classical”. During the

¹ Reinhart, C. et Rogoff, K. (2010), “Growth in a Time of Debt”, *American Economic Review*, vol. 100(2), p. 573-8.

² cf. Herndon, T., Ash, M., Pollin, R. (2014), “Does High Public Debt Consistently Stifle Economic Growth? A Critique of Reinhart and Rogoff”, *Cambridge Journal of Economics*, vol. 38, n°2, pp. 257-279, doi:10.1093/cje/bet075

³ Keynes, J.M. (1936), “*The General Theory of Employment, Interest and Money*”, Cambridge University Press

1990s, a new generation of research developed the idea that cutting public spending (fiscal consolidation) is a means to sustain economic growth. This was a complete turnaround: the multiplier is now negative!

These theoretical developments have had undeniable consequences on the economic policy recommendations made by international financial institutions since the 1980s. The multiplier has been considered negligible or illusory. Only supply-side policies are effective, and over the short-term, only monetary policy should be used.

Rediscovery of the multiplier and observation of its variation over the economic cycle

In a now-famous article published in 2013, Blanchard and Leigh⁴ indicated that they had underestimated the value of fiscal multipliers. Auerbach and Gorodnichenko (2012)⁵ had already published results showing that multipliers were higher than had generally been assumed. In a very recent article, Riera-Crichton et al. (2014)⁶ showed that multiplier effects are all the stronger when the economic slowdown is more pronounced and when public spending is used counter-cyclically. In other words, the multiplier effect is at its strongest in the configuration where public spending is increased significantly during the worst recessions, reaching as much as 3.20 for increased public spending in OECD countries during the deepest recessions. In this case, the value of the multiplier is far from negligible.

Why is the multiplier higher during recession?

This phenomenon has not yet received a fully satisfactory explanation. With their simple methodology, Charles et al. (2014a, 2014b)⁷ recall that the value of the multiplier is positively dependent on the propensity to consume (the share of income devoted to consumption) and the disposable income of households, and negatively dependent on the propensity to import.

It is known that the propensity to consume varies with the economic cycle: as incomes increase, the savings rate also rises, which reduces the propensity to consume and thus the multiplier. Growth therefore tends to reduce the value of the multiplier. Moreover, because of the existence of automatic stabilisers, variations in disposable income are lower than variations in national income. Consequently, all else being equal, economic growth is accompanied by slower growth in available income and therefore by a fall in the multiplier. Conversely, disposable income bears up during recession,

which tends to raise the value of the multiplier. But these well-known mechanisms are insufficient to account fully for the variations in the multiplier.

Using a methodology first developed by Palley (2009)⁸ and then applied by Pusch (2012),⁹ the authors seek to bring to light the influence on the multiplier of variations in imports over the economic cycle. To this end, they ascribe a different propensity to import to each component of demand.

Aggregate demand can then be written in the following form:

$$Y = (1 - \alpha)C + (1 - \beta)I + (1 - \gamma)G + (1 - \delta)X$$

Where Y is the GDP, C is consumption, I is investment, G is government spending and X is exports, and α , β , γ and δ are respectively the share of imports in consumption, investment, government spending and exports. The multiplier k can then be written as follows:

$$k = \frac{\partial Y}{\partial G} = \frac{1}{1 - c\varphi + \left(\alpha \frac{C}{Y} + \beta \frac{I}{Y} + \gamma \frac{G}{Y} + \delta \frac{X}{Y}\right)}$$

where φ is disposable income as a share of GDP.

Whereas Pusch (2012)⁹ postulated that consumption, investment and public spending all contain a similar share of imports, Charles, Dallery and Marie⁷ used the results obtained by Bussière et al. (2013)¹⁰, who estimated the share of imports in the components of demand of the OECD countries in 1995, 2000 and 2005. The results are clear: the propensity to import is strongest in the case of investment, followed by exports, then consumption and lastly public spending. To put it another way: $\beta > \delta > \alpha > \gamma$. These elements are decisive.

Recalling the principle of the investment accelerator proposed by Aftalion at the beginning of the 20th century (variations in investment amplify the variations in economic activity) and observing that in recession, public spending tends to rise while exports fall, the authors explain why the multiplier moves countercyclically. To summarise, their work shows that during a recession, investment shrinks more than the other components of aggregate demand. Since investment is the component which contains the highest share of imports, it follows that the share of imports in GDP falls and the multiplier rises. The opposite effect occurs during the growth part of the economic cycle.

The situation in Europe

On the basis of these developments, the same authors investigated more specifically the annual recessions (fall in real GDP over one year) observed

⁴ Blanchard, O., Leigh, D. (2013), "Growth Forecast Errors and Fiscal Multipliers", *American Economic Review*, vol. 103, pp. 117-120

⁵ Auerbach, A.J., Gorodnichenko, Y. (2012), "Measuring the Output Responses to Fiscal Policy", *American Economic Journal: Economic Policy*, vol. 4, pp. 1-27.

⁶ Riera-Crichton, D., Vegh, C.A., Vuletin, G. (2014), "Procyclical and Countercyclical Fiscal Multipliers: Evidence From OECD Countries", NBER Working Paper, n°20533, September.

⁷ Charles, S., Dallery, T., Marie, J. (2014a), "Why are Keynesian Multipliers bigger in Hard Times?", 4th Conference of the French Association of Political Economy, 2-4 July, Paris, <http://afep2014.sciencesconf.org/33825/document>

Charles, S., Dallery, T., Marie, J. (2014b), "Keynesian Multipliers During the Great Recession: Assessing the Changes since 2007 to Advocate an Effective Fiscal Policy in the Eurozone", 18th Conference of the Research Network Macroeconomics and Macroeconomic Policies (FMM), 30 October - 1 November, Berlin, http://www.boeckler.de/pdf/v_2014_10_30_marie.pdf

⁸ Palley, T.I. (2009), "Imports and the Income-Expenditure Model: Implications for Fiscal Policy and Recession Fighting", *Journal of Post-Keynesian Economics*, vol. 32, pp. 311-322.

⁹ Pusch, T. (2012), "Fiscal spending multiplier calculations based on input-output tables – an application to EU member states", *European Journal of Economics and Economic Policies*, n°1, vol. 9, pp. 129-144.

¹⁰ Bussière, M., Callegari, G., Ghironi, F., Sestieri, G., Yamano, N. (2013), "Estimating Trade Elasticities: Demand Composition and the Trade Collapse of 2008-9", *American Economic Journal: Macroeconomics*, vol. 5, pp. 118-151.

in the eurozone since 2010 (Charles et al., 2014b).⁷ 19 recessions were observed in the eurozone between 2010 and 2013. But surprisingly, there was no longer a systematic rise in the multiplier as there had been in the recessions observed in 2008/2009. In 9 cases, there was even a fall in the estimated value of the multiplier. These paradoxical results do not call into question the reasoning described above: the investment accelerator and the decline in imports during recession still hold true. What is new, and what explains these paradoxical results, is that the economic policies pursued in many countries since 2010 have provoked a fall in disposable income greater than the fall in GDP (in 13 of the 19 recessions), meaning that the automatic stabilisers no longer function – a consequence of the policies of budget austerity. Even more surprising is the fact that in 10 cases, consumption fell more than disposable income, which itself fell more than aggregate production. This suggests that people are seeking to reduce their debts and/or build up their precautionary savings, anticipating an even bleaker future. This situation that reduces the value of the multiplier is alarming: it fuels a recessionary and deflationary spiral. The only thing that can counteract it is an expansionary budget policy.

Conclusion

The principle of the fiscal multiplier, according to which, all else being equal, an increase in public spending of 1€ generates an increase in national

income of more than 1€, allows to reflect about certain aspects of the economy as a whole. The predictive dimension of the concept only holds true as long as certain key variables of the macroeconomic environment (here, the propensities to consume and import) do not change over time, which can be a source of error when it comes to making economic forecasts or policy recommendations.

What Charles et al. (2014a, 2014b) show and explain is precisely the fact that the propensities to consume and import change over the economic cycle (recession/expansion) and the policy cycle (austerity/stimulus). The multiplier is higher during periods of recession than during periods of expansion, but the implementation of a policy of austerity can reduce the value of the multiplier, as numerous examples in Europe have demonstrated since 2010.

The multiplier can exert a leverage effect if it is activated as part of a stimulus plan implemented during recession or stagnation. On the contrary, the coordination of austerity plans in eurozone countries has caused the multiplier to act like a hammer, crushing growth and employment.

These studies highlight the pressing need for fiscal stimulus in Europe.

Seminars & Conferences

May 5, 2015 – 14:00-17:00 – **CEPN (Axe 1) Seminar** – Université Paris 13 - Campus de Villetaneuse – K301
LOUIS-PHILIPPE ROCHON (Laurentian University, Canada) : *“A short history of endogenous money after Keynes”*

May 29, 2015 – 14:00-17:00 – **CEPN (Axe 1) Seminar** – Université Paris 13 - Campus de Villetaneuse – K301
YAXIONG CAO (Wuhan U., China) : *“The influence of financial crisis to Chinese economy and Chinese government’s countermeasures”*

June 4, 2015 – 14:00-17:00 – **Economy of Institutions / CEPN seminar** – Maison des Sciences économiques
ANTONELLA STIRATI (U. of Roma Tre, Italy):
“Real wages in the business cycle : an unresolved conflict between theory and facts in mainstream macroeconomics”

June 5, 2015 – 14:00-17:00 – **CEPN (Axe 1) Seminar** – Université Paris 13 - Campus de Villetaneuse – K301
STEPHEN KINSELLA (Limerick U., Ireland) :
“How to build empirical stock flow consistent models without incurring crippling psychological damage”

June 12, 2015 – 14:00-17:00 – **CEPN (Axe 1) Seminar** – Université Paris 13 - Campus de Villetaneuse – K301
STEVE KEEN (Kingston U., UK) : *“Macroeconomics with Endogenous Money ?”*

June 26, 2015 – 14:00-17:00 – **Séminaire CEPN (Axe 1)** – Université Paris 13 - Campus de Villetaneuse – K301
MATIAS VERNENGO (Bucknell U., USA) : *“A Post Keynesian Interpretation of the European Crisis”*

Books



LA GUERRE DES BREVETS - D'EDISON AUX FRÈRES WRIGHT

PIERRE-ANDRÉ MANGOLTE

ÉDITIONS L'HARMATTAN, COLL. « CHEMINS DE LA MÉMOIRE », SÉRIE « HISTOIRE ÉCONOMIQUE »
ISBN : 978-2-343-03734-9 • 25 € • 242 PAGES

Ce livre est une étude d'ensemble - la première à ce jour - sur les guerres des brevets de la fin du XIX^{ème} siècle et du début du XX^{ème} aux États-Unis. Trois cas sont analysés : le cinéma avec Thomas Edison et sa revendication d'un « droit » de premier et seul inventeur de l'industrie, l'industrie automobile avec l'affaire du brevet Selden, l'industrie des avions et le conflit autour du brevet des Wright. Trois industries donc qui émergent au même moment en France et aux États-Unis, et qui logiquement auraient dû suivre à peu près le même chemin et connaître les mêmes développements. Il y avait en effet des deux côtés de l'Atlantique un système de brevets (ou patents) accordant aux inventeurs des droits exclusifs sur leurs inventions. Des titres étaient délivrés, et les principales nouveautés techniques, à l'origine des nouvelles industries, étaient brevetées. Mais en France il n'y eut aucun conflit important, à la différence de ce qui se passa aux États-Unis. La guerre des brevets est une spécificité américaine, ce qui conduit l'auteur à comparer systématiquement les situations et les évolutions dans les deux pays, industrie par industrie.



DESIGN ET MARKETING - FONDEMENTS ET MÉTHODES

SOUS LA DIRECTION DE JEAN-PIERRE MATHIEU

ÉDITIONS L'HARMATTAN, COLL. « RECHERCHES EN GESTION »
ISBN : 2-296-02349-5 • 34 € • 436 PAGES

Cet ouvrage collectif de recherche coordonné par Jean-Pierre MATHIEU, professeur l'IHPM Paris et chercheur au CEPN-CNRS, montre que le Design et le Marketing sont devenus des concepts et des pratiques incontournables pour le management des entreprises, mais c'est seulement dans leur mise en contexte dans un secteur d'activité précis que se matérialisent des fondements signifiants et des méthodes opérantes. Dans ce sens, si la stratégie de l'offre d'une firme n'est rien d'autre qu'un assemblage de lignes, de formes, de volumes, de couleurs, de sons, de technologies, et de mots, qui, en soi, ne possède aucune signification, c'est pourtant logiquement l'expression d'une réponse de l'entreprise aux attentes des consommateurs. Ainsi, cet ouvrage légitime l'importance de la liaison entre le design et le marketing, lorsqu'il s'agit de création ou d'innovation.

Les vingt-trois auteurs s'inscrivent dans une démarche de rassemblement et de mise en correspondance d'idées, de théories et de méthodes au-delà des frontières des champs disciplinaires.

L'ouvrage s'adresse aux étudiants de troisième cycle qui ont déjà soit une culture de gestionnaire, soit d'ingénieur ou de designer, pour y découvrir des problématiques passionnantes et des réponses théoriques et méthodologiques suscitant les plus grandes curiosités. Il s'adresse également aux enseignants chercheurs, car il vise aussi à donner des pistes pour de futures recherches dans les domaines des sciences de gestion et de celles de l'ingénieur.

Brigitte BORJA DE MOZOTA, Jean-Marc CHARLOT, Emmanuel CHENE, Hervé CHRISTOFOL, Jean-Marc FERRANDI, Jean-Pierre HELFER, Jonas HOFMANN, Ronan DIVARD, Olivier DROULERS, Laurent DUKAN, Bernard GUILLON, Philippe QUINTON, Michel LE RAY, Luc MARCO, Jean-Pierre MATHIEU, Gaël MOREL, Gaëlle PANTIN SOHIER, Jean-François PETIOT, Simon RICHIR, Gilles ROEHRICH, Bernard ROULLET, Henri SAMIER, Bertrand URIEN, Pierre VALETTE-FLORENCE

LE RETOUR DES COMMUNS & LA CRISE DE L'IDÉOLOGIE PROPRIÉTAIRE

BENJAMIN CORIAT

ÉDITIONS LES LIENS QUI LIBÈRENT – (à paraître le 6 mai 2015)
ISBN : 979-10-209-0272-6 • 20 € • 250 PAGES

Un essai centré autour des communs, qui constituent un espoir de transformation sociale à partir d'institutions et d'entreprises qui proposent des ressources en accès ouvert. L'ouvrage développe une réflexion sur les potentialités qu'offre le renouveau de ces communaux collaboratifs.

L'ouvrage présente en 12 chapitres les principaux résultats obtenus au cours de l'ANR PROPICE (Propriété Intellectuelle, Communs et Exclusivité) conduite par Benjamin Coriat et hébergée par le CEPN.