

## Abstract

A new model combining occupational and consumption choices into activity choices is applied to estimate the effect of a minimum wage on utility levels. It is shown that utility is affected negatively by a minimum-wage boundary, regardless of whether the individual concerned switches to a different job or to self-employment, or whether he leaves the working sector to pursue activities in the unpaid or consumer sector. So long as wages remain the main tool for redistributing wealth, there will be an unavoidable trade-off between utility maximisation and distributional equality.

Keywords:: [utility](#), [quality of work](#), [socio-economics](#)  
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## 1. INTRODUCTION

There is a longstanding discussion among economists concerning the welfare effects of minimum wages in which social economists have always played an important role. The basic accepted notion by neoclassical economists is that minimum wages lead to an ‘upward movement along the demand curve in the covered sector’ (Mincer, 1976, p. 91). This has been questioned early by social economists like Lester (1989) who described the relation between wage and employment as a relation of ‘indeterminacy’. More recently, many additional relevant findings have been presented. While there would be theoretical conditions under which the minimum wage would increase efficiency (Altman, 2012) and general welfare (Marceau & Boadway, 1994; Rebitzer & Taylor, 1995), empirical observations tend to indicate that minimum-wage legislation decreases public welfare by all standards (Golan, Perloff, & Wu, 2001). Several side effects of the introduction of a minimum wage have been identified, such as the possibility of a more liberal social policy (Boadway & Cuff, 2001) or a drop in school enrolment (Neumark & Wascher, 1995).

As a complementary level of analysis to these aggregated considerations, some social economists have also attempted to analyse the utility deriving from minimum-wage legislation for individuals, e.g. for vulnerable groups such as single mothers (Sabia, 2008), young employees (Mangan & Johnston, 1999) or for low-income households (Sen, Rybczynski, & van de Waal, 2011). On this level, even left-wing scholars like Fairchild (2004) and Leigh (2008) became increasingly sceptical whether a minimum wage would benefit poor households. This article aims to add to the micro-level of analysis, albeit from a different perspective: while utility in conventional models depends on net income and leisure (Bernard, Fischer, & Fox, 2007; Kimhi, 1997; van Soest, Das, & Gong, 2002), this article draws on a recent model by Mann (2013) in which utility is also generated through the process of work.

The justifications for considering work to be as much a process of utility generation as any other activity, as well as the basic model of activity choice, are introduced in Section 2. In Section 3, the activity-choice model is applied to

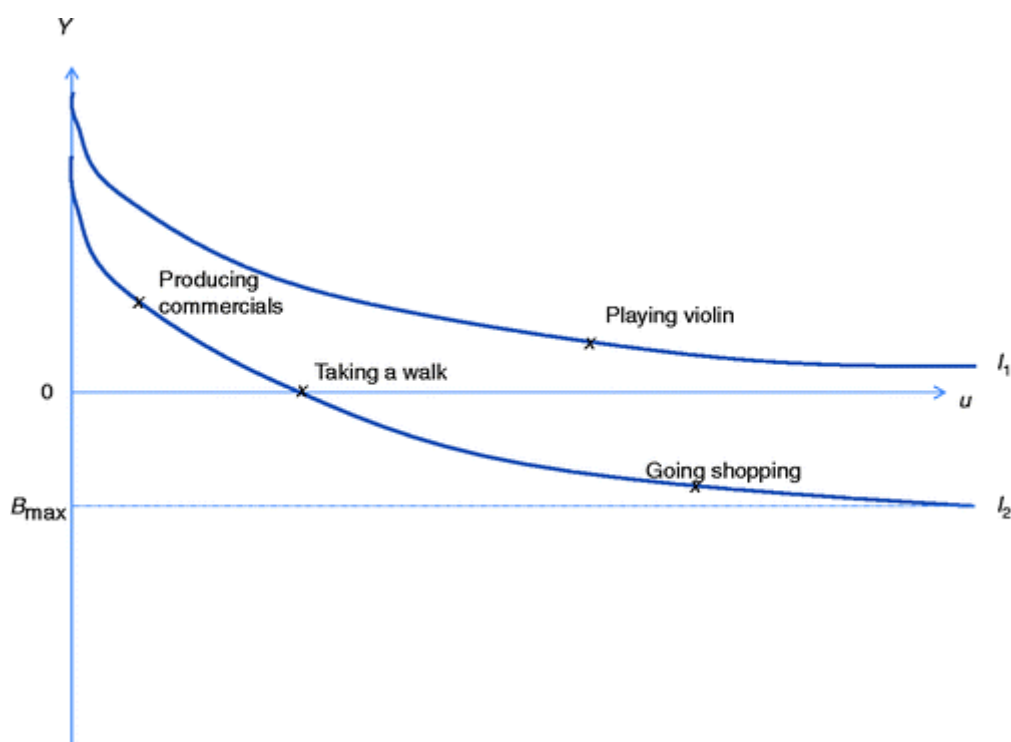
the introduction of minimum-wage legislation for an employee. In Section 4, the model is extended to include the option of self-employment, before conclusions are drawn in Section 5.

## 2. THE BASIC ACTIVITY-CHOICE MODEL

The model as depicted in Figure 1 represents the allocation of a time unit—say, an hour—in a person's life. There are a limited number of activities among which the individual can choose, described by some x-dots in Figure 1. In this example, there are four options: going shopping, taking a walk, playing the violin or producing commercials. Three variables are decisive for the allocation decision of the time unit:

- The Y-axis describes the monetary dimension. For some activities ('going shopping'), the monetary balance is negative; for others ('taking a walk'), it is zero as the activities take place in the non-market sphere. In the example, there are two ways for the person concerned to make money: playing the violin (less money per hour) or producing commercials (more money per hour).

**Figure 1** The basic activity-choice model



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- The budgetary line,  $B_{\max}$ , describes the maximum amount of money that can be spent, bearing in mind the limited resources. In Figure 1, this restriction does not lead to the ruling-out of any of the four options.

- The  $u$ -axis describes the non-monetary utility derived by an individual from an activity, i.e. the level of enjoyment experienced when performing the said activity. Figure 1 indicates that the person in question is assumed to enjoy shopping the most, followed by playing the violin, taking a walk and—the activity that provides the least non-monetary utility—producing commercials.

Because the available budget only provides a restriction, the individual's preferences are solely determined by the two factors of non-monetary utility and monetary balance. This two-dimensional system does not contradict the usual one-dimensional notion of homo economicus as a utility maximiser. Whereas ' $u$ ' only serves as a description of individual welfare in the current situation, money is required as a promise to generate utility in the future. An individual's trade-off between ' $u$ ' and ' $Y$ ' will therefore be dependent on his or her time-preference rate.

The fact that such a trade-off exists is taken into account through indifference curves. For the sake of graphic simplicity, Figure 1 shows only two indifference curves where  $u(I_1) > u(I_2)$ . This means that playing the violin generates a higher total utility for the time unit in question than the other three activities, which all lead to the same degree of total utility.

The main paradigmatic claim of the model is that the process of working may generate utility, but to very different degrees. Pagano's (1985) premise that 'our working life affects our welfare as much as our non-working life and the availability of consumption goods' (p. 173) has been empirically confirmed in a very convincing manner by happiness research. Unemployment has a vastly detrimental effect on people's happiness (Clark & Oswald, 1994; Gerlach & Stephan, 1996), less than one-quarter of which effect is attributable to the decrease in income connected with joblessness (Winkelmann & Winkelmann, 1995). Psychological research (Feather, 1990; Jahoda, 1982) shows that unemployment leads to feelings of uselessness and a sense of being undervalued. Meanwhile, more and more people are being diagnosed with burnout due to overwork (Keinan & Malach-Pines, 2007; Schaufeli, Taris, & van Rhenen, 2008, who have shown that workaholism and burnout are positively correlated). It is debatable whether this is merely the result of external pressure, or is also because of too many decisions to work more and take less leisure time. The fact that 'many of us fear, rather than relish, the prospect of retirement' (Couser, 2008, p. 115) strongly militates in favour of the latter.

There are a surprising number of activities in the world of work that are successfully used as therapeutic tools outside this sphere. Playing music—used in the above-mentioned model — is a case in point. Numerous studies confirm the emotionally healing effect of making music (Bakker, 2005; Hays & Minichiello, 2005; Park, Guptill, & Sumsion, 2007). Agriculture, where the term 'greencare' has been coined to describe the therapeutic effects of farming (Elings & Hassink, 2008), is another example. This, coupled with the empirical

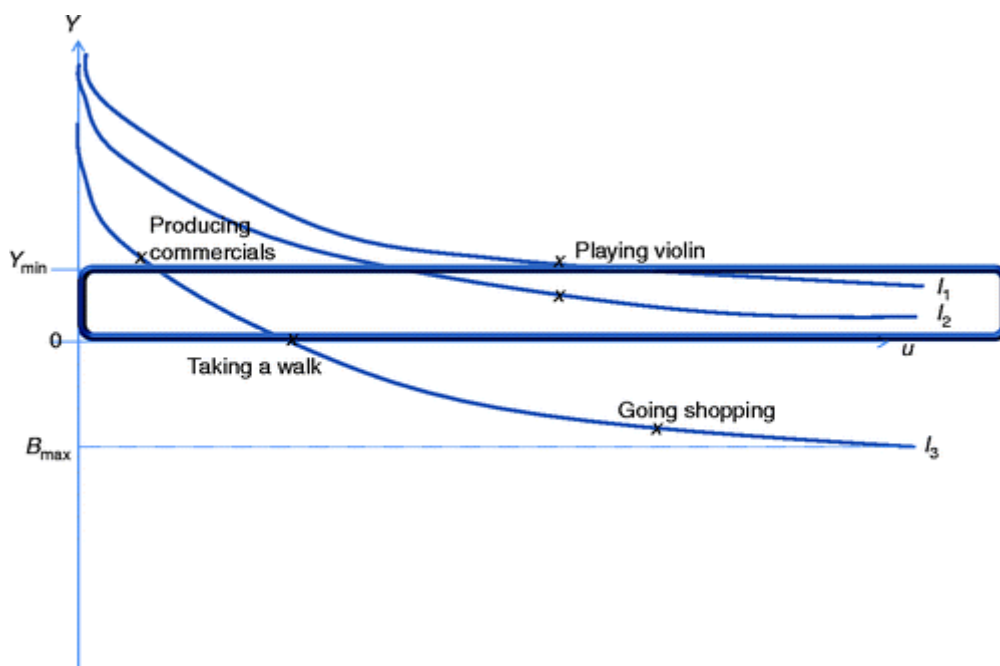
evidence that monetary remuneration is a fairly insignificant factor in the choice of jobs such as alpine farming (Calabrese & Mann, 2014), indicates that the utility level of working activities may be systematically higher in some sectors than in others, and that this matters tremendously for decision-making processes and utility levels. In an inverse way, J.M. Keynes included the notion of labour quality in his statement about the 'equality of the real wage to the marginal disutility of employment' (McCombie, 1987, p. 204).

Despite this, many options in the consumption sphere are as attractive as economists consider them to be. Acquiring additional money shifts budget restrictions downwards, so that all activities in which  $Y > 0$  fulfil the double function of generating direct utility and generating additional options for the future. Furthermore, all activities in which  $Y < 0$  not only do not generate direct utility, but also reduce future options by decreasing the available budget. This corroborates the two-dimensionality of the individual's objective function in the model.

### 3. INTRODUCTION OF A MINIMUM WAGE

In Figure 2, a minimum wage of  $Y_{\min}$  is introduced which prohibits all activities for which the monetary exchange per time unit is larger than zero, but smaller than  $Y_{\min}$ . In an ideal case, this would increase the wage of the violinist to  $Y_{\min}$  so that a new and higher indifference curve  $I_1$  becomes possible and will be chosen. The utility effect of the minimum wage is positive. As do the majority of economists, let us now assume that instead of altering the wage, or even productivity, the introduction of a minimum wage eliminates the job. In Figure 2, this means that there will no longer be the option of working as a violinist. Contrary to the assumptions of the majority of economists, however, the model suggests that there are alternatives to unemployment, since other job opportunities exist.

**Figure 2 Introduction of a minimum wage**



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This assumption increasingly matches reality. In the farming sector, part-time off-farm occupations are becoming increasingly important. Normile and Price (2004) report that 50% of farmers in the USA and 70% in the EU work part-time in the sector. Whilst agriculture has tended to be a sphere in which individuals pursue multiple occupations, the reality of individuals working more than one job can increasingly be observed in other sectors as well. In Argentina, almost 200,000 people were laid off from public-sector jobs without strong opposition, presumably because many of the employees had more than one job (Guasch, 1996). The economic necessity—particularly as experienced by young professionals—of juggling several jobs at once has been termed ‘moonlighting’ (Pelto & Pelto, 1992). However, the freedom to pursue more than one job at a time is also considered a component of the general growth in workplace flexibility (Skyrme, 1994).

In addition to holding down more than one job at any given time, career changes within an individual's working life is another increasingly observable reality which supports the model. Given that 10% of British jobholders change their occupation in any given year (Longhi & Brynin, 2010), it can be concluded that occupational change occurs once every ten years on average. Connolly and Gregory (2008) report that a quarter of women switching from full-time to part-time work in effect move to a lower-skilled occupation. Return migrants have also been identified as a social group with a very high degree of occupational change (Xu, 2010).

In the example of Figure 2, the three activities ‘producing commercials’, ‘taking a walk’ and ‘going shopping’ remain after ‘playing the violin’ has been removed as an option, and are all assumed by us to be on the same indifference curve. We may thus assume that the time formerly spent playing the violin will now be split among the other three activities. Earning money will be concentrated within a smaller time frame, but will generate much less utility. In general, the

shift from  $I_2$  to  $I_3$  caused by the introduction of a minimum wage has generated major disutilities.

## 4. INTRODUCTION OF SELF-EMPLOYMENT

It has previously been observed that the existence of a minimum wage has a positive effect on self-employment (Kamhi & Leung, 2005). In general, self-employment does not offer any social benefits such as social security and severance payments, working-condition standards and a minimum wage itself (Puentes, Contreras, & Sanhueza, 2007). These findings are illustrated in Figure 3. Whereas it is no longer possible to secure a long- or medium-term employment contract for violin playing, it is still possible to work engagements or 'gigs', i.e. to be hired for a particular occasion—or to organise one's own concerts. These alternatives earn the musician less money than do similar events performed as an employee, but remain legal. Moreover, these options are preferred to alternative jobs such as 'producing commercials', or to activities outside the working sphere, as  $u(I_3) > u(I_2)$ .

**Figure 3 Introduction of the alternative of self-employment**



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The last 20 years have seen the emergence of a debate on false self-employment in many countries and sectors, particularly in the construction business (Böheim & Muehlberger, 2006; Harvey, 2001). Unions argue that a growing number of the formally self-employed do not have the actual independence from employers which their status implies. More generally, Kautonen et al. (2010) look at a broad range of what they call 'precarious self-employment' in many European countries, and conclude that 'it is very difficult to regulate quasi self-employment without harming "voluntary" forms of enterprise and inter-firm cooperation at the same time' (p. 112). It seems to be



a conceptual weakness of a minimum wage that it covers only one institutional sort of work, whilst other types are neglected.

## 5. DISCUSSION AND CONCLUSIONS

By combining the working and non-working spheres in a single framework, the activity-choice model demonstrates that a minimum wage can pose a serious threat to the utility of an individual. At the same time, many social scientists consider a minimum wage to be an important modern tool for fighting social injustice (Figart, 2001; Levin-Waldman, 2000; Pollert, 2008; Tierney, 2007; Zatz, 2009). This leads directly to the question of where the origin of these different perceptions lies.

The main ethical argument, which is also supported by social economists like Prasch and Sheth (1999), is that employees who ‘play by the rules’ should earn a ‘living wage’. This view is based on the perception that work has to be done (the ‘rule’) and the ones who do it deserve the reward with which they can afford a more or less decent living.

Contrasting to this view, the model here is rather rooted in the perception that the financial dimension of work is just one of two crucial components. A component which both economists and other social scientists tend to ignore is the non-monetary utility derived from employment—the joy or dismay, frustration or excitement which working brings. We may assume that this aspect exerts a considerable influence on the well-being of individuals. The concept of a minimum wage cuts corners in the evaluation of an employment contract by looking at just one of the two components.

It does so in the knowledge that labour today is by far the most important tool for achieving a fairer redistribution of wealth in society. As long as this is the case, there will be a trade-off between utility and distributional equality. However, the negative utility effects of wage restrictions point to the desirability of a strong distributive tool outside the world of work with less negative effects. The notion of a basic income targeting the specific problem of the unfortunate link between labour reimbursement and distribution may still sound radical and have other negative side effects to consider, but is nonetheless the most plausible approach for resolving this dilemma.

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## References

1. Altman, M. (2012). The living wage, economic efficiency, and socio-economic wellbeing in a competitive market economy. *Forum for Social Economics*, 41, 166–186. [[Taylor & Francis Online](#)], [[Google Scholar](#)]

2. Bakker, A. B. (2005). Flow among music teachers and their students: The crossover of peak experiences. *Journal of Vocational Behavior*, 66, 26–44. [[Crossref](#)], [[Web of Science ®](#)], [[Google Scholar](#)]
3. Bernard, A. L., Fischer, C., & Fox, A. K. (2007). Is there a rationale for output-based rebating of environmental levies? *Resource and Energy Economics*, 29, 83–101. [[Crossref](#)], [[Web of Science ®](#)], [[Google Scholar](#)]
4. Boadway, R., & Cuff, K. (2001). A minimum wage can be welfare-improving and employment-enhancing. *European Economic Review*, 45, 553–576. [[Crossref](#)], [[Web of Science ®](#)], [[Google Scholar](#)]
5. Böheim, R., & Muehlberger, U. (2006). Dependent forms of self-employment in the UK: Identifying workers on the border between employment and self-employment. IZA Discussion Paper No. 1963. Retrieved from SSRN: <http://ssrn.com/abstract=882060>. [[Google Scholar](#)]
6. Calabrese, C., & Mann, S. (2014). Alpine farming in Switzerland—Discerning a lifestyle-driven labor supply. *Review of Social Economy*, 72, 137–156. [[Taylor & Francis Online](#)], [[Google Scholar](#)]
7. Clark, A. E., & Oswald, A. J. (1994). Unhappiness and unemployment. *The Economic Journal*, 104, 648–659. [[Crossref](#)], [[Web of Science ®](#)], [[Google Scholar](#)]
8. Connolly, S., & Gregory, M. (2008). Moving down: Women's part-time work and occupational change in Britain 1991–2001. *The Economic Journal*, 118, F52–F76. [[Crossref](#)], [[Web of Science ®](#)], [[Google Scholar](#)]
9. Couser, G. T. (2008). Slouching toward the big sabbatical. *New Haven Review*, 2008, 115–120. [[Google Scholar](#)]
10. Elings, M., & Hassink, J. (2008). Green care farms, a safe community between illness or addiction and the wider society. *Therapeutic Communities*, 29, 297–309. [[Google Scholar](#)]
11. Fairchild, D. (2004). Does the minimum wage help the poor? *Forum for Social Economics*, 34, 31–42. [[Taylor & Francis Online](#)], [[Google Scholar](#)]
12. Feather, N. T. (1990). *The psychological impact of unemployment*. New York, NY: Springer. [[Crossref](#)], [[Google Scholar](#)]
13. Figart, D. M. (2001). Ethical foundations of the contemporary living wage movement. *International Journal of Social Economics*, 28, 800–814. [[Crossref](#)], [[Google Scholar](#)]
14. Gerlach, K., & Stephan, G. (1996). A paper on unhappiness and unemployment in Germany. *Economic Letters*, 52, 325–330. [[Crossref](#)], [[Web of Science ®](#)], [[Google Scholar](#)]
15. Golan, A., Perloff, J. M., & Wu, X. (2001). Welfare effects of minimum wage and other government policies. CUDARE Working Papers, Berkeley, CA. [[Google Scholar](#)]
16. Guasch, L. (1996). Estimating the employment benefits of labor reform in Argentina. Sector Study, World Bank. [[Google Scholar](#)]
17. Harvey, M. (2001). *Undermining construction: The corrosive effects of false self-employment*. London: Union of Construction. [[Google Scholar](#)]
18. Hays, T., & Minichiello, V. (2005). The contribution of music to quality of life in older people: An Australian qualitative study. *Ageing and Society*, 25, 261–278. [[Crossref](#)], [[Web of Science ®](#)], [[Google Scholar](#)]
19. Jahoda, M. (1982). *Employment and unemployment—A social-psychological analysis*. Cambridge: University Press. [[Google Scholar](#)]
20. Kamhi, N., & Leung, D. (2005). Recent developments in self-employment in Canada. Bank of Canada, Working Paper 2005-8. [[Google Scholar](#)]
21. Kautonen, T., Down, S., Welter, F., Vainio, P., Palmroos, J., Althoff, K., & Kolb, S. (2010). 'Involuntary self-employment' as a public policy issue: A cross-



- country European review. *International Journal of Entrepreneurial Behaviour & Research*, 16, 112–129. [\[Crossref\]](#), [\[Google Scholar\]](#)
22. Keinan, G., & Malach-Pines, A. (2007). Stress and burnout among prison personnel. *Criminal Justice and Behavior*, 34, 380–398. [\[Crossref\]](#), [\[Web of Science ®\]](#), [\[Google Scholar\]](#)
  23. Kimhi, A. (1997). Intergenerational succession in small family businesses: Borrowing constraints and optimal timing of succession. *Small Business Economics*, 9, 309–318. [\[Crossref\]](#), [\[Web of Science ®\]](#), [\[Google Scholar\]](#)
  24. Leigh, A. (2008). Does raising the minimum wage help the poor? *Economic Record*, 83, 432–445. [\[Crossref\]](#), [\[Web of Science ®\]](#), [\[Google Scholar\]](#)
  25. Lester, R. A. (1989). *Economics of labor*. New York, NY: Macmillan. [\[Google Scholar\]](#)
  26. Levin-Waldman, O. M. (2000). Minimum wage and justice. *Review of Social Economy*, 58, 43–62. [\[Taylor & Francis Online\]](#), [\[Web of Science ®\]](#), [\[Google Scholar\]](#)
  27. Longhi, S., & Brynin, M. (2010). Occupational change in Britain and Germany. *Labour Economics*, 17, 655–666. [\[Crossref\]](#), [\[Web of Science ®\]](#), [\[Google Scholar\]](#)
  28. Mangan, J., & Johnston, J. (1999). Minimum wages, training wages and youth employment. *International Journal of Social Economics*, 26, 415–429. [\[Crossref\]](#), [\[Google Scholar\]](#)
  29. Mann, S. (2013). 'Work'? On utility in the market and in the unpaid sphere. *Journal of Socio-Economics*, 45, 86–91. [\[Crossref\]](#), [\[Google Scholar\]](#)
  30. Marceau, N., & Boadway, R. (1994). Minimum wage legislation and unemployment insurance as instruments for redistribution. *Scandinavian Journal of Economics*, 96, 67–81. [\[Crossref\]](#), [\[Web of Science ®\]](#), [\[Google Scholar\]](#)
  31. McCombie, J. S. L. (1987). Keynes and the nature of involuntary unemployment. *Journal of Post-Keynesian Economics*, 10, 202–215. [\[Taylor & Francis Online\]](#), [\[Web of Science ®\]](#), [\[Google Scholar\]](#)
  32. Mincer, J. (1976). Unemployment effects of minimum wages. *Journal of Political Economy*, 84, 87–104. [\[Crossref\]](#), [\[Web of Science ®\]](#), [\[Google Scholar\]](#)
  33. Neumark, D., & Wascher, W. (1995). Minimum wage effects on employment and school enrollment. *Journal of Business and Economic Statistics*, 13, 199–206. [\[Taylor & Francis Online\]](#), [\[Web of Science ®\]](#), [\[Google Scholar\]](#)
  34. Normile, M. A., & Price, J. (2004). The United States and the European Union—Statistical overview. In *USDA: U.S.-EU food and agriculture comparisons*. Darby, PA: Diane Publishing. [\[Google Scholar\]](#)
  35. Pagano, U. (1985). *Work and welfare in economic theory*. Oxford: Basil Blackwell. [\[Google Scholar\]](#)
  36. Park, A., Guptill, C., & Sumsion, T. (2007). Why music majors pursue music despite the risk of playing-related injuries. *Medical Problems of Performing Artists*, 22, 89–96. [\[Web of Science ®\]](#), [\[Google Scholar\]](#)
  37. Pelto, P. J., & Pelto, G. H. (1992). Developing applied medical anthropology in third world countries: Problems and actions. *Social Science and Medicine*, 35, 1389–1395. [\[Crossref\]](#), [\[PubMed\]](#), [\[Web of Science ®\]](#), [\[Google Scholar\]](#)
  38. Pollert, A. (2008). Injustice at work: How Britain's low-paid non-unionised employees experience workplace problems. *Journal of Workplace Rights*, 13, 223–244. [\[Crossref\]](#), [\[Google Scholar\]](#)
  39. Prasch, R. E., & Sheth, F. A. (1999). The economics and ethics of minimum wage legislation. *Review of Social Economy*, 57, 466–487. [\[Taylor & Francis Online\]](#), [\[Web of Science ®\]](#), [\[Google Scholar\]](#)

40. Puentes, E., Contreras, D., & Sanhueza, C. (2007). Self-employment in Chile, long-run trends and education and age structures changes. *Estudios de Economía*, 34, 203–247. [Web of Science ®], [Google Scholar]
41. Rebitzer, J. B., & Taylor, L. J. (1995). The consequences of minimum wage laws—Some new theoretical ideas. *Journal of Public Economics*, 56, 245–255. [Crossref], [Web of Science ®], [Google Scholar]
42. Sabia, J. J. (2008). Minimum wages and the economic well-being of single mothers. *Journal of Policy Analysis and Management*, 27, 848–866. [Crossref], [Web of Science ®], [Google Scholar]
43. Schaufeli, W. B., Taris, T. W., & van Rhenen, W. (2008). Workaholism, burnout, and work engagement: Three of a kind or three different kinds of employee well-being? *Applied Psychology*, 57, 173–203. [Crossref], [Web of Science ®], [Google Scholar]
44. Sen, A., Rybczynski, K., & van de Waal, C. (2011). Teen employment, poverty, and the minimum wage: Evidence from Canada. *Labour Economics*, 18, 36–47. [Crossref], [Web of Science ®], [Google Scholar]
45. Skyrme, D. J. (1994). Flexible working: Building a lean and responsive organization. *Long Range Planning*, 27, 98–110. [Crossref], [Web of Science ®], [Google Scholar]
46. Tierney, R. (2007). The guest labor system in Taiwan—Labor market considerations, wage injustices, and the politics of foreign labor brokerage. *Critical Asian Studies*, 39, 205–228. [Taylor & Francis Online], [Web of Science ®], [Google Scholar]
47. van Soest, A., Das, M., & Gong, X. (2002). A structural labour supply model with flexible preferences. *Journal of Econometrics*, 107, 345–374. [Crossref], [Web of Science ®], [Google Scholar]
48. Winkelmann, L., & Winkelmann, R. (1995). Happiness and unemployment: A panel data analysis for Germany. Retrieved from <http://hdl.handle.net/2379/10639>. [Google Scholar]
49. Xu, H. (2010). Return migration, occupational change, and self-employment. *China Perspectives*, 4/2010. [Crossref], [Google Scholar]
50. Zatz, N. (2009). The minimum wage as a civil rights protection: An alternative to antipoverty arguments? University of Chicago Legal Forum. Retrieved from [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1438234](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1438234). [Google Scholar]