Conclusion

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CONCLUSION

In this thesis, we analyzed aspects of some important market failures that may hamper an appropriate functioning of the Dutch health care system: market power in the provider market, and selection and consumer inertia in the insurance market.

Chapter 2 tackled the issue of market power in the Dutch hospital market. Since mergers are the most important source of increased market concentration, and many mergers took place in the Dutch hospital market, it is essential to improve our understanding of how hospital mergers may affect market performance. My first research question was: *For a merger between two neighboring hospitals in the Netherlands, do the prices increase after a merger and do we observe differential price changes between different hospital locations, different products and different insurers?* We examined the price effect of a hospital merger for three products: hip replacement, knee replacement and cataract surgery. We found evidence of heterogeneous price effects across health insurers, hospital products and hospital locations. After disaggregating the price effect per product and location, significant price increases related to the merger were found. These price increases, however, occurred at one of the locations of the merged hospitals and for one of the three products (i.e. hip replacement). Furthermore, the price effects varied considerably among insurers. These findings therefore suggest that when analyzing the effects of a hospital merger on market performance, it is important to take a more disaggregate approach to get a more complete picture of the relevant merger effects.

In most developed countries, a merger is submitted for approval to a competition authority, which reviews the merger and decides whether it is allowed to be consummated. The findings in Chapter 2 show that for competition authorities it may be worthwhile to investigate ex ante whether a proposed hospital merger may result in price increases in specific sub-markets or locations. This would allow competition authorities to reveal and address in greater detail the potential detrimental effects of a hospital merger.

Unfortunately, predicting the effect of a hospital merger is not an easy task. Economists have developed new methods to review mergers in hospital markets, such as the Option Demand Method. The OD-method has clear advantages over more traditional market definition approaches, because it provides antitrust agencies with direct evidence about the expected effects of the merger. Additionally, it does not require questionable assumptions associated with delineation of the relevant (geographic) market. There is, however, a lack of empirical evidence that approaches like the OD-method are able to give reliable predictions. My second research question therefore was: *What is the predictive power of the Option Demand Method for mergers in the Dutch hospital market?* In Chapter 3, we examined this question by comparing the ex-ante prediction of the simulation model with the ex-post observed price effects for a consummated hospital merger in the Netherlands.

Erasmus University Rotterdam

Our results indicated a relationship between our measure of market power and prices for hip replacements. We were not able to establish a relationship between market power and prices for knee replacements and cataract surgeries. Therefore, only a reduced-form merger simulation for hip replacements was estimated. The comparison between the reduced-form merger simulation and ex post estimates are not conclusive. Our findings suggest that the OD-method could be a valuable addition to the antitrust agencies toolkit, but that more research remains necessary.

Although prices are of course an important market outcome, for patients the quality of hospital care may be even more important. However, in the Dutch hospital market – where most prices are not regulated by the government – the potential impact of competition on quality is ambiguous. That is, depending on the specific market conditions competition may result in lower or higher quality of care. Hence, my third research question was: ***What is the relationship between competition and quality indicators in the Dutch non-price-regulated hospital market?*** In Chapter 4, we investigated this question by combining patient-level claims data with information on quality indicators. We examined three diagnosis groups (cataract, adenoid and tonsils, and bladder tumor) delivered by Dutch hospitals in the period 2008-2011. For this study period, we evaluated the relationship between hospitals' quality scores and indicators of hospital market power. For cataract and bladder tumor, the relationship between market share and quality scores was found to be negative. For adenoid and tonsils, however, this relationship was not statistically significant. One possible explanation for this difference is that the patient group for adenoid and tonsils is less complex. Mainly children younger than 11 years are treated for adenoid and tonsils, and these patients have relatively few additional diagnoses. It could be the case that patients are less sensitive to quality when their treatment has a lower risk of complications. Thus, for two of the three diagnosis groups studied, hospitals in (more) competitive markets had better quality scores than those in concentrated markets.

In several developed (OECD) countries, markets also play an important in the financing of health care. This is also the case in the Netherlands. Such health care markets consist of a complex interaction between consumers, insurers and providers. Generally, on the health insurance market consumers buy health plans from competing health insurers. These health plans give consumers access to a network of providers when they seek treatment. An insurer and a provider negotiate over the inclusion of the provider into the insurer's network.

The functioning of health insurance markets can by hampered by selection problems and information frictions. The interaction of both phenomena, however, may reduce welfare problems because the latter (partly) counteracts the former. Empirical identification of the exact extent of the selection problem is in general challenging because of the interaction of selection and moral hazard. The mere fact that people who choose a

voluntary deductible have lower health expenses does not, by itself, prove the presence of adverse selection. This may also be due to more cost conscious behavior induced by the deductible (i.e. less moral hazard). In Chapter 5, we tried to control for the moral hazard effect to answer my fourth research question: ***How large is the selection effect for individuals who chose voluntary deductibles in a health insurance market with risk-adjustment?*** By examining people's deductible choice, while taking account of their prior health care expenses, we were able to identify the selection effect separately from moral hazard effect. Our analysis showed that offering contracts with voluntary deductibles results in self-selection by healthier individuals, who are overcompensated by the risk-adjustment system. The expected gains on the risk-adjustment per individual with a voluntary deductible of 500 euro were estimated to be around 450 euro on average. On top of this, the corresponding individuals pay a larger share out-of-pocket, resulting in lower costs for the insurer to be reimbursed. In return, the insurer offers the individual a premium discount for taking a voluntary deductible, but this discount is typically (much) lower than the cost savings due to self-selection.

The interaction between adverse selection and consumer inertia is the subject of my fifth research question: ***Is adverse selection effectively mitigated by consumer inertia in the Dutch health insurance market?*** In Chapter 6, using panel data on all insured individuals in the Netherlands over period 2010-2013, we examined this question by constructing all possible choice paths for people choosing a zero or 500 euro voluntary deductible. For each individual, his choice path is based on the possible deductible choices that the individual can make in each year. For each individual we can distinguish 16 possible deductible choice paths. We found that all possible choice paths have cost patterns that are consistent with the presence of adverse selection. The patterns also suggested that on average healthy people are able to anticipate effectively next year's health care costs. Estimating a logit model, we found clear evidence of adverse selection. That is, people with higher previous and future health care cost are substantially less likely to take up or keep a 500 euro deductible. However, we also found clear evidence of high consumer inertia as the propensity of taking up a 500 euro voluntary deductible among low-cost individuals is only 3.5% while such a deductible would probably be (very) profitable for them.

To a certain extent consumer inertia may be welfare increasing, because it counteracts adverse selection. Within the context of the Dutch health insurance market with regulated (or managed) competition, however, the presence of substantial consumer inertia may well be welfare decreasing. This is because the potential negative welfare effects of adverse selection are possibly substantially mitigated by a sophisticated system of risk equalization. Despite the presence of risk equalization, however, we find that individuals opting for the highest deductible level appear to be overcompensated by the risk-adjustment system. Apart from this, reducing consumer inertia on the health

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insurance market may lead to more adverse selection. This may have a negative effect on consumer welfare, despite the fact that moral hazard decreases when more people choose voluntary deductibles. Nevertheless, the associated negative welfare effects are likely to be much smaller than the positive welfare effects of enhancing active consumer choice because of the large share of the population currently incurring a substantial implied monetary loss (about 200 euro per person). This suggests that, within the current Dutch market for basic health insurance, activities aimed at reducing consumer inertia with regard to deductible choice are likely to be welfare improving. These potential welfare gains might even be higher if the reduction of consumer inertia is combined with an improvement in risk-adjustment system that reduces the expected gains on the risk-adjusted payments for people choosing a voluntary deductible.