Supplementary Appendix A and B:

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Abstract

These Supplementary Appendices presents additional theoretical (A) and empirical (B) results for the paper "Privatization of Credence Goods: Theory and an Application to Residential Youth Care".

1 Maximizing (2.1).

From (2.1), we get

$$V_1 = p - \gamma\left[cq + F(e)\right] - C(e) + \left[1 - \lambda(q)\right] V_2$$

In case of private ownership, the owner's maximand is

$$p - cq - F(e) - C(e) + \left[1 - \lambda(q)\right] V_2$$

FOC w.r.t. e is:t

$$-F'(e) = C'(e).$$

The uniqueness of this solution follows from the fact that $F(e)$ and $C(e)$ are both strictly convex. FOC w.r.t. q is

$$\begin{aligned} -\lambda'(q) V_2 &= c \\ \alpha(1+q)^{-(1+\alpha)} V_2 &= c, \end{aligned}$$

which can be reformulated as

$$\begin{aligned} \alpha(1+q)^{-(1+\alpha)} V_2 &= c \\ q &= \left(\frac{\alpha}{c}V_2\right)^{\frac{1}{1+\alpha}} - 1 \end{aligned}$$

Hence, we have a function $q(V_2)$ where

$$q(V_2) = \left(\frac{\alpha}{c}V_2\right)^{\frac{1}{1+\alpha}} - 1$$

if $\left(\frac{\alpha}{c}V_2\right)^{\frac{1}{1+\alpha}} > 1$ and $q(V_2) = 0$ otherwise.

We get the first derivative of $q(V_2)$ w.r.t. V_2 (assuming that V_2 is such that $q > 0$)

$$\frac{\alpha}{(1+\alpha)c}\left(\frac{\alpha}{c}V_2\right)^{-\frac{\alpha}{1+\alpha}} > 0$$

and the second derivative

$$-\frac{\alpha^3}{(1+\alpha)^2 c^2}\left(\frac{\alpha}{c}V_2\right)^{-\frac{1+2\alpha}{1+\alpha}} < 0,$$

implying that there is a unique solution of q for all V_2.

In case of public ownership, the manager's maximand is

$$p - C(e) + [1-\lambda(q)]V_2.$$

It follows that the manager sets $e = \underline{e}$ regardless of V_2. The manager is indifferent as to the level of quality in case $V_2 = 0$. If $V_2 > 0$, the manager uses all available resources on quality.

2 Full solution: Private firm

The owner's problem

As $-F'(e) > C'(e)$ for some $e > \underline{e}$, the owner always sets $e = e^* > \underline{e}$ where $e^*$is such that $-F'(e^*) = C'(e^*)$. As $F''(e) > 0$ and $C''(e) > 0$ this solution is unique. The full solution to the owner's maximization problem is

$$\{q,e\} = \begin{cases} q = 0 \text{ and } e = e^* & \text{if } p \leq \frac{c}{\alpha} + F(e^*) + C(e^*); \\ q = \frac{\alpha}{(1+\alpha)c}\left[p - F(e^*) - C'(e^*) - \frac{c}{\alpha}\right] \text{ and } e = e^* & \text{if } p > \frac{c}{\alpha} + F(e^*) + C(e^*). \end{cases}$$

The second order condition w.r.t. q is

$$\alpha(\alpha-1)[p - F(e) - C(e)]q^{\alpha-2} - 2\alpha c q^{\alpha-1} < 0.$$

In the interior solution where $q \geq 0$, we have q as a continuous function of p with derivatives

$$\begin{aligned} \frac{\partial q}{\partial p} &= \frac{\alpha}{(1+\alpha)c}; \\ \frac{\partial^2 q}{\partial p^2} &= 0. \end{aligned}$$

To see that V^o is continuously increasing in p, consider to prices, p'' and p' where $p'' > p'$. We have that

$$V^o(p'') \geq \frac{p'' - F(e^*) - C(e^*) + cq(p')}{\lambda(q(p'))} > \frac{p' - F(e^*) - C(e^*)}{\lambda(q(p'))} = V^o(p').$$

As the owner's best outside option is equal to zero, there is a unique price, $\underline{p} = F(e^*) + C(e^*)$, such that the participation constraint binds, i.e., $V^o(\underline{p}) = 0$.

Total cost (T^o) under private production is given by

$$T^o(q) = p(q) = \begin{cases} F(e^*) + C(e^*) & \text{if } q = 0 \\ \left(\frac{(1+\alpha)c}{\alpha}\right)q + F(e^*) + C(e^*) + \frac{c}{\alpha} & \text{if } q > 0 \end{cases}$$

Note that the marginal cost of quality continuously approaches infinity as α approaches zero.

The public agency's problem

Let $\underline{p} = F(e^*) + C(e^*)$. The public agency's problem is then

$$\begin{array}{ll} \max_p & V^{pa}(B,p) \\ s.t. & p \geq \underline{p} \end{array}$$

where

$$
\begin{aligned}
V^{pa}(B,p) &= (B-p)(1+q(p))^{\alpha} \\
&= (B-p)\left(1+\frac{\alpha}{(1+\alpha)c}\left[p-F(e^*)-C(e^*)-\frac{c}{\alpha}\right]\right)^{\alpha}.
\end{aligned}
$$

The first derivative of $V^{pa}(B,p)$ with respect to p is

$$
\begin{aligned}
&-\left(1+\frac{\alpha}{(1+\alpha)c}\left[p-F(e^*)-C(e^*)-\frac{c}{\alpha}\right]\right)^{\alpha} \\
&+\frac{\alpha^2}{(1+\alpha)c}(B-p)\left(1+\frac{\alpha}{(1+\alpha)c}\left[p-F(e^*)-C(e^*)-\frac{c}{\alpha}\right]\right)^{\alpha-1}
\end{aligned}
$$

In the interior solution, we thus get

$$
p^* = \frac{B\alpha+F(e^*)+C(e^*)-c}{1+\alpha}
$$

which is strictly increasing in B. The second derivative to the public agency's problem is

$$
-(1+\alpha)(1+q(p))^{\alpha-1}\frac{\partial q(p)}{\partial p}-\alpha(B-p)(1-\alpha)(1+q(p))^{\alpha-2}\frac{\partial q(p)}{\partial p}<0,
$$

implying that the interior solution is unique. The condition for the existence of an interior solution is that the first derivative of V^{pa} with respect to p is positive for some $p>\frac{c}{\alpha}+F(e^*)+C(e^*)$. Substituting this expression into the first derivative above, we get

$$
B>\frac{(1+2\alpha)c}{\alpha^2}+F(e^*)+C(e^*)=\widetilde{B}^o.
$$

Substituting $p^*(B)$ into $q(p)$, we get

$$
q(p^*(B)) = \frac{\alpha^2}{(1+\alpha)^2 c}\left[B-F(e^*)-C(e^*)\right]-\frac{1+2\alpha}{(1+\alpha)^2}
$$

which is strictly increasing in B.

Lemma A1 shows that there exists a unique value B^o such that $V^{pa}(p^*(B))>V^{pa}(\underline{p})$ for all $B>B^o$ and $V^{pa}(p^*(B))<V^{pa}(\underline{p})$ for all for all $B<B^o$. In other words, the public agency will set a price that provides the owner with a rent from treatment in case quality is sufficiently important.

3 Full solution: Public firm

The manager's problem

The solution to the manager's problem is

$$
(q,e)=\begin{cases} q=\widetilde{q}; e=\underline{e} & \text{if } p=C(\underline{e}); \\ q=q^{\max}; e=\underline{e} & \text{if } p>C(\underline{e}); \end{cases}
$$

Where $\widetilde{q}$ denotes the level of quality asked for by the public agency, and $q^{\max}$ the maximum level of quality feasible given the resources available. Total cost under public provision (T^m) is given by $F(e)+cq+p$, implying that we get

$$
T^m(q)=F(\underline{e})+C(\underline{e})+cq.
$$

The public agency's problem
First note that there is no point for the public agency to set $p > C(\underline{e})$ since e is unaffected and the choice set of quality investments is the same. Since $e^m = \underline{e}$ and the public agency pays for all costs, we have that

$$\max_{\{q\}} \quad [B - F(\underline{e}) - C(\underline{e}) - cq](1+q)^\alpha$$

which gives FOC w.r.t. q :

$$\begin{aligned} -c(1+q)^\alpha + \alpha [B - F(\underline{e}) - C(\underline{e}) - cq](1+q)^{\alpha-1} &= 0 \\ \frac{\alpha}{c(1+\alpha)}\left[B - F(\underline{e}) - C(\underline{e}) - \frac{c}{\alpha}\right] &= q \end{aligned}$$

and the second order condition

$$-c(1+\alpha)(1+q)^{\alpha-1} + (\alpha-1)\alpha[B - F(\underline{e}) - C(\underline{e}) - cq](1+q)^{\alpha-2} < 0$$

implying that the solution is unique.

4 Microfoundation for assumption on ownership

This section provides a simple formal argument for the assumption that firm owners pay the costs of production.

Consider an augmented model where production of the service requires the use of an asset A which has market value V_t at the onset of each treatment period. Under in-house production, A is owned by the public agency. In case of service contracting, A is owned by the private firm. Production leads to a depreciation of the value of A, but the agent can offset this by investing in the future value of A. Let i denote an investment at cost $k(i)$ where $k(i)$ is increasing and strictly convex in i with $k'(0) > 1$. For example, in the case of garbage collection, $k(i)$ could reflect resources spent on the maintenance of the trucks used to collect the garbage. The function $V_{t+1}(i) = V_t + i - \delta$ denotes the value of the asset at the end of treatment period t, where δ is the per-period depreciation of the asset value. I also assume that the optimal investment (i.e., i^* such that $k'(i^*) = 1$) is equal to the level of depreciation δ. This assumption simplifies the exposition but is not important for the results. When i falls short of i^*, the agent invests too little as the marginal cost of increasing investments, $k'(i)$, is below the marginal value, i.e., 1. When i is above i^*, the agent overinvests as it would now be socially optimal to reduce investments.

As before, the cost of producing a service of quality q is $cq + F(e)$. Let a denote the total expenditures of producing the service. The expenditures consists both of the direct cost and the investments, i.e.,

$$a = cq + F(e) + k(i).$$

The key assumption here is that while a is directly observable, the investment $k(i)$ cannot be separarated from the direct costs. For example, it is hard to disentangle the costs of regular equipment maintenance from investments that raise the long-term value of the equipment. As another example, it is hard to assess to what extent workforce training is a long-term investment. A third example is the implementation of administrative systems that increase the long-run effectiveness of the firm. However, in order to avoid extreme solutions, I assume that i is bounded from below by zero, and from above by $\bar{i} > i^*$. Apart from ownership (γ), a contract in the case of contracting on expenditures specifies a treatment fee (p) and a share of expenditures $\upsilon \in \{0, 1\}$. The public agency thus decides between a cost-plus contract $(\upsilon = 0)$ and a fixed-price contract $(\upsilon = 1)$.

In case of no contracting on costs or quality, the agent's maximization problem is

$$\begin{array}{ll} \max\limits_{\{q,e,i\}} & \frac{p - C(e) - \upsilon[F(e) + cq + k(i)] + \gamma(i-\delta)}{\lambda(q)} \\ \text{s.t.} & i \in [0, \bar{i}]. \end{array} \tag{1}$$

The only exogenously imposed difference between private and public ownership is that $\gamma = 1$ under private ownership whereas $\gamma = 0$ under public ownership.

4.1 Public firm

The manager of the public firm maximizes (1) where $\gamma = 0$. There are two cases depending on the value of υ. If $\upsilon = 1$, the manager's problem is

$$\begin{array}{ll} \max\limits_{\{q,e,i\}} & \left[p - C(e) - (F(e) + cq + k(i))\right](1+q)^{\alpha} \\ \text{s.t.} & i \in \left[0, \bar{i}\right]. \end{array}$$

implying that we get $e = e^*$ where e^* is such that $-F'(e^*) = C'(e^*)$; $i = 0$, and

$$q = \frac{\alpha}{(1+\alpha)c}\left[p - C(e^*) - F(e^*) - \frac{c}{\alpha}\right]$$

if $p > C(e^*) + F(e^*) + \frac{c}{\alpha}$ and $q = 0$ otherwise. Reformulating this expression gives the treatment fee as a function of quality for $q > 0$

$$p(q) = \frac{(1+\alpha)}{\alpha}cq + C(e^*) + F(e^*) + \frac{c}{\alpha}$$

and

$$p(q=0) = C(e^*) + F(e^*).$$

Since the public agency owns the asset, total cost for $q > 0$ is given by

$$T(q, \upsilon = 1) = \left(\frac{1+\alpha}{\alpha}\right)cq + \frac{c}{\alpha} + C(e^*) + F(e^*) + \delta$$

and

$$T(q = 0, \upsilon = 1) = C(e^*) + F(e^*) + \delta$$

for $q = 0$.

If $\upsilon = 0$, the manager's problem is

$$\begin{array}{ll} \max\limits_{\{q,e,i\}} & \left[p - C(e)\right](1+q)^{\alpha} \\ \text{s.t.} & i \in \left[0, \bar{i}\right]. \end{array}$$

implying that we get

$$e = \arg\min C(e) = \underline{e}.$$

The manager is indifferent regarding the values of i and q. Total cost is therefore

$$T(q, \upsilon = 0) = cq + C(\underline{e}) + F(\underline{e}) + k(i^*)$$

where $i^* = \delta$ is such that $k'(i^*) = 1$. Since marginal cost of quality is strictly higher when $\upsilon = 1$, it follows that $\upsilon = 0$ is superior regardless of the preference for quality if total cost is lower under $\upsilon = 0$ for zero quality. Hence, $\upsilon = 0$ is always superior under public ownership in case

$$\begin{array}{rcl} C(e^*) + F(e^*) + \delta & > & C(\underline{e}) + F(\underline{e}) + k(i^*) \\ \delta - k(i^*) & > & \left[C(\underline{e}) + F(\underline{e})\right] - \left[C(e^*) + F(e^*)\right], \end{array}$$

That is, it is better for the public agency to pay the costs of production in case the cost of underinvestment is larger than the cost of low productive efficiency under weak incentives.

4.2 Private firm

In case $\upsilon = 1$, the owner's problem is

$$\begin{array}{ll} \max\limits_{\{q,e,i\}} & [p - C(e) - (F(e) + cq + k(i)) + i - \delta](1+q)^{\alpha} \\ \text{s.t.} & i \in [0, \bar{i}]. \end{array}$$

implying that $e = e^*$; $i = i^*$ and

$$q = \frac{\alpha}{c(1+\alpha)}\left[p - C(e^*) - [F(e^*) + k(i^*)] - \frac{c}{\alpha}\right].$$

Rearranging this expression, we get the treatment fee as a function of quality for $q > 0$

$$p(q) = \frac{(1+\alpha)}{\alpha}cq + C(e^*) + F(e^*) + k(i^*) + \frac{c}{\alpha}$$

which is also equal to the total cost. For $q = 0$, we get

$$p(q = 0) = C(e^*) + F(e^*) + k(i^*)$$

which is just the lowest possible treatment fee such that the owner's participation constraint binds.

In case $\upsilon = 0$, the owner's maximization problem is

$$\begin{array}{ll} \max\limits_{\{q,e,i\}} & (p - C(e) + i - \delta)(1+q)^{\alpha} \\ \text{s.t.} & i \in [0, \bar{i}]. \end{array}$$

implying that $i = \bar{i}$, $e = \underline{e}$, and q will be set to any value wished for by the public agency. Hence, the treatment fee where the owner's participation constraint binds is

$$p = C(\underline{e}) + \delta - \bar{i}.$$

Since the public agency pays the costs of production, total cost is

$$T(q, \upsilon = 0) = cq + C(\underline{e}) + F(\underline{e}) + k(\bar{i}) - \bar{i} + \delta.$$

The cost difference between $\upsilon = 1$ and $\upsilon = 0$ is thus

$$[C(e^*) + F(e^*) + k(i^*)] - \left[C(\underline{e}) + F(\underline{e}) + k(\bar{i}) - \bar{i} + \delta\right] < 0$$

for $q = 0$ and

$$\begin{aligned} & \left[\frac{(1+\alpha)}{\alpha}cq + C(e^*) + F(e^*) + k(i^*) + \frac{c}{\alpha}\right] - \left[cq + C(\underline{e}) + F(\underline{e}) + k(\bar{i}) - \bar{i} + \delta\right] \\ = & \left[\frac{1}{\alpha}cq + \frac{c}{\alpha} + C(e^*) + F(e^*) + k(i^*)\right] - \left[C(\underline{e}) + F(\underline{e}) + k(\bar{i}) - \bar{i} + \delta\right] \end{aligned}$$

for $q > 0$. Hence, though $\upsilon = 1$ is always cheaper when quality is zero, it is cheaper for quality is above zero if and only if

$$\frac{c}{\alpha}(q+1) < [C(\underline{e}) + F(\underline{e})] - [C(e^*) + F(e^*)] + \left[k(\bar{i}) - \bar{i} + \delta\right] - k(i^*),$$

i.e., if the incentive cost for quality is smaller than the cost of weak incentives for cost reductions and overinvestment. It follows that for any level of quuality, there exists an overinvestment cost, $\left[k(\bar{i}) - \bar{i} + \delta\right] - k(i^*)$ such that $\upsilon = 1$ is optimal. That is, $\upsilon = 1$ is optimal under private ownership when quality is unimportant, or when overinvestment is a substantial problem under cost contracting.

Also note that when $\upsilon = 1$ private ownership is superior to public ownership since, for $q > 0$,

$$\begin{aligned} & \left[\frac{(1+\alpha)}{\alpha}cq + \frac{c}{\alpha} + C(e^*) + F(e^*) + k(i^*)\right] - \left[\left(\frac{1+\alpha}{\alpha}\right)cq + \frac{c}{\alpha} + C(e^*) + F(e^*) + \delta\right] \\ = \; & k(i^*) - \delta < 0, \end{aligned}$$

and similarly for $q = 0$. In contrast, public ownership is superior when $\upsilon = 0$ since

$$\begin{aligned} & \left[cq + C(\underline{e}) + F(\underline{e}) + k(\bar{i}) - \bar{i} + \delta\right] - \left[cq + C(\underline{e}) + F(\underline{e}) + k(i^*)\right] \\ = \; & \left[k(\bar{i}) - \bar{i} + \delta\right] - \left[k(i^*)\right] > 0. \end{aligned}$$

5 Time-variant treatment fees

The analysis in the paper considered the case when the treatment fee was fixed throughout the treatment period. Now suppose instead that the public agency could commit to any vector of treatment fees $\mathbf{p} = \{p_1, p_2, ..., p_\infty\}$. As is easily seen in (2.1), quality in the first treatment period is a function of V_2 which must be strictly above zero for the owner to have any incentives to put effort on quality. However, the treatment fee in the first period, p_1, does not affect incentives for quality. To see this, consider a contract where where p is fixed from the second period and onwards. The owner's maximand can then be reformulated as

$$\frac{p - F(t_c) - C(t)}{\lambda(q)} + (p_1 - p).$$

That is, the producer's maximization problem with respect to quality and cost is the same as in (2.1) and unaffected by p_1. The fact that p_1 does not affect incentives for quality implies that p_1 can be set to neutralize the expected rent from subsequent period. If $p_1 = F(e^*) + cq(V_2) - (1 - \lambda(q(V_2)))V_2$, we get from (2.1) that $V_1 = 0$, implying that the public agency can induce the owner both to give a truthful diagnosis and to invest in quality. In essence, the owner pays a lump-sum payment to the public agency during the first period, which he then recoups in future periods. There are however, several reasons for why contracts with such lump-sum payments may not be feasible in practice. First, a contract with $p_1 < F(e^*)$ might not be feasible in case the producer is constrained by limited liability. Second, the use of lump-sum payments at the onset of treatment requires that each individual patient and treatment is easy to identify. In practice, the need to diagnose the needs of treatment is likely to arise over the course of treatment, at points in time which are hard to know beforehand. To renegotiate contracts on every such occassion would entail high transaction costs. Third, the fact that lump-sum transfers in effect implies that producers buy the right to treat a patient may not resonate well with social norms. Finally, if B is private knowledge, a contract on low treatment fees at the beginning of treatment but high fees for subsequent periods might not be credible as public agencies with a low B could exit from a relationship after the first period. In contrast, the public agency can credibly commit not to exit from a fixed-fee contract even if B is private knowledge.[1]

6 Proof of Lemma A1

First consider the derivatives of V^{pa} with respect to B. In the interior solution, we get

[1] To see this, note that the only reason for the public agency to exit a fixed-fee contract is that $B < p$ or that a hazard occurs. In case $p > 0$, there is never in the interest of the public agency to enter a contract where $B < p$. In case $B > p$, the public agency wants to stay in the contractual relationship until a hazard occurs.

$$
\begin{aligned}
\frac{\partial V^{pa}(B,p(B))}{\partial B} &= (1+q(p(B)))^{\alpha} \\
&\quad + \left[\alpha(B-p(B))(1+q(p(B)))^{\alpha-1}\frac{\partial q}{\partial p} - (1+q(p(B)))^{\alpha}\right]\frac{\partial p}{\partial B} \\
&= (1+q(p(B)))^{\alpha} \\
&\quad + \left[\alpha\left(B - \frac{B\alpha + F(e^*) + C(e^*) - c}{1+\alpha}\right)\frac{\partial q}{\partial p}(1+q(p(B)))^{\alpha-1} - (1+q(p(B)))^{\alpha}\right]\frac{\partial p}{\partial B} \\
&= (1+q(p(B)))^{\alpha} \\
&\quad + \left[\frac{\alpha^2}{(1+\alpha)^2 c}(B - F(e^*) - C(e^*) + c)(1+q(p(B)))^{\alpha-1} - (1+q(p(B)))^{\alpha}\right]\frac{\partial p}{\partial B} \\
&= (1+q(p(B)))^{\alpha} \\
&\quad + \left[\left[q(p(B)) + \frac{1+2\alpha}{(1+\alpha)^2} + \frac{\alpha^2}{(1+\alpha)^2}\right](1+q(p(B)))^{\alpha-1} - (1+q(p(B)))^{\alpha}\right]\frac{\partial p}{\partial B} \\
&= (1+q(p(B)))^{\alpha} \\
&\quad + \left[(q(p(B))+1)(1+q(p(B)))^{\alpha-1} - (1+q(p(B)))^{\alpha}\right]\frac{\partial p}{\partial B} \\
&= (1+q(p(B)))^{\alpha} \\
&\quad + \left[(1+q(p(B)))^{\alpha} - (1+q(p(B)))^{\alpha}\right]\frac{\partial p}{\partial B} \\
&= (1+q(p(B)))^{\alpha} > 1
\end{aligned}
$$

and

$$
\frac{\partial^2 V^{pa}(B,p(B))}{\partial B^2} = \alpha(1+q(p(B)))^{\alpha-1}\frac{\partial q}{\partial p^*}\frac{\partial p^*}{\partial B} > 0.
$$

As $q\left(\underline{p}\right) = 0$, the derivative with respect to B in the corner solution is

$$
\frac{\partial V^{pa}\left(B,\underline{p}\right)}{\partial B} = \left(1+q\left(\underline{p}\right)\right)^{\alpha} = 1^{\alpha} = 1.
$$

The second derivative is zero.

Even if, as shown in the Appendix of the main paper, there exists an interior solution for all $B > \widetilde{B}^o$, we have that $V^{pa}\left(B,\underline{p}\right) > V^{pa}(B,p^*(B))$ when B is close to $\widetilde{B}^o$. To see this, consider $B = \widetilde{B}^o + \varepsilon$ where $\varepsilon > 0$ and the corresponding interior solution, p^*. Let $q(p^*) = q\left(\underline{p}\right) + \delta = \delta$, implying that the gain in value of treatment from raising the price from $\underline{p}$ to p^* is $\left(\widetilde{B} + \varepsilon\right)\delta$ which approach zero as ε approach zero, whereas the cost difference $p^* - \underline{p}$ approach $\widetilde{p} - \underline{p} = \frac{c}{\alpha}$ from above. However, as the derivative of V^{pa} with respect to B is always higher in the interior solution, and the difference is increasing in B, there exists a unique value B^o such that

$$
V^{pa}(B^o,p^*(B^o)) = V^{pa}\left(B^o,\underline{p}\right).
$$

When $B = B^o$, the public agency is thus indifferent between $\underline{p}$ and p^*. For $B < B^o$, $\underline{p}$ strictly dominates p^*, whereas p^* strictly dominates $\underline{p}$ when $B > B^o$.

Table B1. Selection of teenagers I

	Prev. exp.		Prev. break		Psych. pr.		Addiction		Investig. §12	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Private	0.223***	0.162*	0.209***	0.124	0.151**	0.124*	0.244**	0.212**	0.142**	0.097*
	(0.081)	(0.084)	(0.071)	(0.076)	(0.077)	(0.072)	(0.104)	(0.107)	(0.061)	(0.051)
Nonprofit	−0.126*	−0.112	−0.056	−0.101	−0.066	−0.023	0.080	0.015	−0.051*	−0.062***
	(0.073)	(0.081)	(0.086)	(0.080)	(0.072)	(0.092)	(0.084)	(0.088)	(0.026)	(0.023)
CAB	0.073	0.078	0.042	0.039	0.059	0.050	0.163	0.164	0.094	0.089*
	(0.081)	(0.076)	(0.078)	(0.070)	(0.077)	(0.065)	(0.113)	(0.111)	(0.067)	(0.053)
Distance		0.146**		0.281***		−0.058		0.151**		0.066*
		(0.074)		(0.076)		(0.056)		(0.066)		(0.039)
Places		−0.001		0.003		−0.003		0.005		0.002
		(0.003)		(0.003)		(0.003)		(0.003)		(0.002)
Treatment: Evaluations		0.029		0.081		−0.086*		−0.014		−0.060***
		(0.067)		(0.074)		(0.051)		(0.076)		(0.021)
Treatment: School		−0.034		0.099		0.097		−0.024		0.017
		(0.073)		(0.071)		(0.065)		(0.066)		(0.030)
N	338	330	326	318	338	330	338	330	337	329

APE from probit regressions. Robust standard errors clustered on the facility level in parentheses. One asterisk denotes 10 percent significance level, two asterisks 5 percent significance level and three asterisks 1 percent significance level in a two-sided test.

TABLE B2. Selection of teenagers II

	Voluntary		Sex		Age		Immigrant		v15r	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Private	0.157	0.096	0.077	0.019	−0.177	−0.374*	−0.173**	−0.153	0.273***	0.183*
	(0.106)	(0.105)	(0.082)	(0.100)	(0.204)	(0.190)	(0.081)	(0.099)	(0.075)	(0.095)
Nonprofit	−0.166**	−0.210***	−0.027	−0.010	0.198	0.188	−0.025	−0.013	−0.115	−0.142*
	(0.073)	(0.063)	(0.097)	(0.106)	(0.195)	(0.214)	(0.080)	(0.092)	(0.078)	(0.081)
CAB	−0.018	−0.004	0.010	0.007	−0.250	−0.234	−0.205***	−0.213***	0.045	0.042
	(0.109)	(0.102)	(0.078)	(0.084)	(0.192)	(0.163)	(0.076)	(0.077)	(0.084)	(0.086)
Distance		0.219***		0.047		0.377**		0.006		0.232***
		(0.079)		(0.071)		(0.154)		(0.071)		(0.073)
Places		0.006		−0.001		0.006		−0.002		0.003
		(0.004)		(0.004)		(0.008)		(0.004)		(0.005)
Treatment: Evaluation		0.015		−0.071		−0.196		0.169**		0.009
		(0.083)		(0.077)		(0.160)		(0.069)		(0.074)
Treatment: School		−0.113		0.092		−0.358**		0.121**		−0.052
		(0.074)		(0.066)		(0.151)		(0.058)		(0.068)
Constant					2.979***	3.042***				
					(0.171)	(0.161)				
N	337	329	338	330	338	330	338	330	335	327
R^2					0.01	0.05				

APE from probit regressions except for Age. Robust standard errors clustered on the facility level in parentheses. One asterisk denotes 10 percent significance level, two asterisks 5 percent significance level and three asterisks 1 percent significance level in a two-sided test.

Table B3. Selection of teenagers III

	v13fr		Crime		Violent beh.		Childhood pr.	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Private	0.250***	0.144	0.188*	0.091	0.074	0.028	0.151	0.179
	(0.090)	(0.114)	(0.098)	(0.115)	(0.067)	(0.071)	(0.123)	(0.109)
Nonprofit	0.156	0.115	−0.047	−0.008	−0.019	−0.010	−0.204***	−0.204**
	(0.103)	(0.114)	(0.104)	(0.108)	(0.060)	(0.067)	(0.075)	(0.085)
CAB	0.192**	0.200*	0.036	0.029	0.039	0.038	−0.023	−0.010
	(0.092)	(0.111)	(0.098)	(0.106)	(0.065)	(0.061)	(0.128)	(0.110)
Distance		0.225***		0.171**		0.056		0.025
		(0.068)		(0.081)		(0.057)		(0.074)
Places		0.006		−0.005		−0.000		0.002
		(0.005)		(0.004)		(0.003)		(0.004)
Treatment: Evaluation		−0.181**		−0.067		−0.045		0.113
		(0.089)		(0.089)		(0.049)		(0.089)
Treatment: School		0.070		0.064		0.039		−0.230***
		(0.088)		(0.073)		(0.060)		(0.077)
N	338	330	338	330	338	330	338	330

APE from probit regressions except for Age. Robust standard errors clustered on the facility level in parentheses. One asterisk denotes 10 percent significance level, two asterisks 5 percent significance level and three asterisks 1 percent significance level in a two-sided test.

Table B4. Selection of municipalities

	All private facilities					Only for-profit facilities				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Right-wing majority	0.009		−0.082			−0.009		−0.064		
	(0.101)		(0.102)			(0.094)		(0.107)		
Log(pop. 1990)	0.096		0.053			0.075		0.027		
	(0.063)		(0.066)			(0.062)		(0.072)		
Placements in 1991	−0.010		−0.002			−0.008		−0.002		
	(0.007)		(0.007)			(0.006)		(0.007)		
Geo: "Göteborg"		−0.195***	−0.263**				−0.122**	−0.143		
		(0.058)	(0.114)				(0.062)	(0.117)		
Geo: "Stockholm"		−0.162**	−0.153				−0.112	−0.073		
		(0.082)	(0.121)				(0.089)	(0.125)		
Geo: "Malmo"		0.081	−0.021				0.159**	0.102		
		(0.063)	(0.098)				(0.071)	(0.123)		
Geo: "Götaland"		−0.095	−0.055				−0.147	−0.120		
		(0.112)	(0.116)				(0.115)	(0.120)		
Geo: "Svealand"		0.114	0.131				−0.001	0.014		
		(0.119)	(0.123)				(0.129)	(0.135)		
Contracting in elderly care 1998				0.003					−0.001	
				(0.003)					(0.004)	
Contracting in child care 1998					0.005					0.002
					(0.005)					(0.006)
N	318	325	318	296	296	261	265	261	241	241
Psuedo R^2	.014	.034	.043	.004	.003	.013	.026	.031	.000	.000

APE from Probit regressions. Robust standard errors with clustering at the municipality level in parentheses. "Norrland" omitted variable.
One asterisk denotes 10 percent significance level, two asterisks 5 percent significance level and three asterisks 1 percent significance level.
in a two-sided test

Table B5. Robustness checks, cost

	Price (SEK)		
	(1) OLS	(2) OLS	(3) OLS
Constant	$51,360^{***}$	$47,464^{***}$	$20,086$
	$(15,969)$	$(12,108)$	$(16,960)$
Private	$-25,742^{**}$	$-14,927^{*}$	$-16,465^{**}$
	$(10,011)$	$(7,638)$	$(7,774)$
Personnel density	$2,860$	$9,726^{**}$	$10,540^{***}$
	$(6,953)$	$(4,030)$	$(3,922)$
Private*Personnel density	$28,052^{***}$	$21,696^{***}$	$21,675^{***}$
	$(7,697)$	$(5,732)$	$(5,652)$
Nonprofit	$-3,201$	$1,619$	855
	$(6,908)$	$(4,672)$	$(4,379)$
County	$-19,123$	$-3,549$	981
	$(17,982)$	$(4,598)$	$(4,593)$
Nonprofit*Personnel density	$4,454$		
	$(9,056)$		
County*Personnel density	$12,903$		
	$(12,107)$		
Private*Right wing		$-10,982^{**}$	
		$(4,827)$	
Private*Log(pop. 1990)			$-4,311^{**}$
			$(1,938)$
Teenager characteristics	Yes	Yes	Yes
Facility characteristics	Yes	Yes	Yes
Municipality characteristics	Yes	Yes	Yes
Municipality FE	No	No	No
N	258	258	258
R^2	0.58	0.59	0.59

Robust standard errors clustered on the facility level in parentheses. One asterisk denotes 10 percent significance level, two asterisks 5 percent significance level and three asterisks 1 percent significance level in a two-sided test.

Table B6. Facilities with a personnel density of 0.8 or more

	Price (SEK)				
Variable	(1) OLS	(2) OLS	(3) OLS	(4) OLS	(5) OLS
Constant	22,348**	18,000*	22,539**	54,571***	25,827**
	(9,841)	(10,308)	(9,705)	(11,042)	(12,248)
Private	−4,348	2,896	−6,966	−18,729	−13,632
	(13,017)	(13,103)	(13,102)	(13,017)	(17,085)
Personnel density	19,994***	24,109***	17,754***	12,421**	13,710
	(6,584)	(6,591)	(6,095)	(5,390)	(8,371)
Private*Pers. density	12,710	8,490	16,860**	22,487**	20,306
	(8,589)	(8,629)	(8,076)	(8,829)	(12,306)
Nonprofit	−1,041	776	4,375	7,460	19,197**
	(6,326)	(6,476)	(6,128)	(7,227)	(8,612)
Teenager ch.	No	Yes	Yes	Yes	Yes
Facility ch.	No	No	Yes	Yes	Yes
Municipality ch.	No	No	No	Yes	No
Municipality FE	No	No	No	No	Yes
N	235	226	226	202	206
R^2	0.24	0.29	0.41	0.55	0.84

Robust standard errors clustered on the facility level in parentheses. One asterisk denotes 10 percent significance level, two asterisks 5 percent significance level and three asterisks 1 percent significance level in a one-sided test.

Table B7. Excluding County facilities

	Price (SEK)				
	(1) OLS	(2) OLS	(3) OLS	(4) OLS	(5) OLS
Constant	$22,757^{***}$	$14,554^{*}$	$32,698^{**}$	$75,328^{***}$	$44,864^{**}$
	(7,573)	(8,723)	(14,280)	(28,244)	(21,470)
Private	$-5,942$	-899	$-18,547$	$-22,128$	$-27,784$
	(8,083)	(9,132)	(16,088)	(18,199)	(20,190)
Personnel density	$20,320^{***}$	$24,925^{***}$	10,727	8,038	-637
	(4,588)	(5,209)	(12,529)	(16,351)	(18,641)
Private*Pers. dens.	$13,004^{**}$	7,039	21,869	23,91	$34,663^{*}$
	(5,574)	(6,409)	(13,424)	(17,240)	(18,533)
Nonprofit	$-1,956$	-378	1,236	1,67	10,823
	(4,168)	(4,251)	(3,986)	(4,459)	(9,635)
Teenager ch.	No	Yes	Yes	Yes	Yes
Facility ch.	No	No	Yes	Yes	Yes
Municipality ch.	No	No	No	Yes	No
Municipality FE	No	No	No	No	Yes
Observations	175	166	165	145	148
R-squared	0.50	0.55	0.61	0.67	0.90

Robust standard errors clustered on the facility level in parentheses. One asterisk denotes 10 percent significance level, two asterisks 5 percent significance level and three asterisks 1 percent significance level in a one-sided test.

TABLE B8. Controlling for insiders and outsiders

	Price (SEK)				
	(1) OLS	(2) OLS	(3) OLS	(4) OLS	(5) OLS
Constant	29,149***	26,752***	26,749***	37,777***	21,347*
	(8,542)	(9,681)	(8,131)	(13,379)	(12,813)
Private	−12,334	−9,816	−10,36	−13,014	−4,736
	(8,996)	(9,956)	(8,455)	(8,334)	(12,313)
Personnel density	15,477**	17,582***	13,982***	11,045***	15,460*
	(5,936)	(6,505)	(4,808)	(4,192)	(8,895)
Private*Pers. dens	17,847***	15,577**	18,537***	20,224***	16,057*
	(6,725)	(7,447)	(5,690)	(5,907)	(9,194)
Nonprofit	−1,956	−1,595	349	1,206	9,299
	(4,162)	(4,251)	(4,015)	(4,843)	(7,578)
Outsider: Municipality	3,214	4,884	8,053	9,445*	10,672
	(4,755)	(5,159)	(5,991)	(5,152)	(7,336)
Outsider: County	2,578	1,916	−318	2,120	−924
	(4,236)	(4,880)	(4,161)	(4,248)	(6,506)
Teenager ch.	No	Yes	Yes	Yes	Yes
Facility ch.	No	No	Yes	Yes	Yes
Municipality ch.	No	No	No	Yes	No
Municipality FE	No	No	No	No	Yes
Observations	302	289	288	258	263
R-squared	0.36	0.39	0.50	0.57	0.83

Robust standard errors clustered on the facility level in parentheses. One asterisk denotes 10 percent significance level, two asterisks 5 percent significance level and three asterisks 1 percent significance level in a one-sided test.

TABLE B9. Cost and personnel density in public facilities

	County		Municipality	
	Mean	Std	Mean	Std
Cost	51,100	15,040	50,590	10,049
Personnel density	1.505	.274	1.517	.831

Table B10. Excluding non-profit facilities

	Treatment breakdown				
	(1) OLS	(2) OLS	(3) OLS	(4) OLS	(5) OLS
Private	.265***	.240***	.207**	.222**	0.212
	(.073)	(.092)	(.098)	(.115)	(0.194)
County	.091	.031	.033	.002	−0.137
	(.070)	(.074)	(.077)	(.105)	(0.166)
Private*Violence		-.368***	-.379***	-.290**	−0.463**
		(.156)	(.159)	(.171)	(0.203)
Private*Pr. break		-.100	-.142	-.133	−0.187
		(.130)	(.135)	(.155)	(0.213)
Constant	.187***	-.025	.072	-.167	0.304
	(.054)	(.104)	(.107)	(.442)	(0.469)
Teenager ch.	No	Yes	Yes	Yes	Yes
Facility ch.	No	No	Yes	Yes	Yes
Municipality ch.	No	No	No	Yes	No
Municipality FE	No	No	No	No	Yes
N	287	275	267	240	244
R^2	.05	.23	.24	.29	0.60

Robust standard errors clustered on the facility level in parentheses. One asterisk denotes 10 percent significance level, two asterisks 5 percent significance level and three asterisks 1 percent significance level in a one-sided test.

Table B11. Breakdowns, control for planned duration

	Treatment breakdown				
	(1) OLS	(2) OLS	(3) OLS	(4) OLS	(5) OLS
Constant	.072	−.282**	−.205	−1.288	−.711
	(.093)	(.162)	(.185)	(.666)	(1.287)
Private	.144	.329**	.289**	.358*	.007
	(.135)	(.150)	(.166)	(.264)	(.955)
Nonprofit	−.106	−.126	−.139	−.374*	.278
	(.118)	(.154)	(.179)	(.212)	(.601)
County	.145	.116	.138	.072	.038
	(.110)	(.104)	(.109)	(.199)	(.576)
Planned duration	.608	.414	.223	.259	1.312
	(.511)	(.421)	(.458)	(.427)	(2.069)
Private*Planned duration (norm.)	.195	−.006	.002	−.554	−1.691
	(.709)	(.807)	(.827)	(1.012)	(2.625)
Private*Violence		−.565**	−.578**	−.699**	−.840*
		(.252)	(.246)	(.307)	(.645)
Private*Prevous breakdown		−.208	−.215	−.176	.537
		(.217)	(.248)	(.282)	(.584)
Teenager ch.	No	Yes	Yes	Yes	Yes
Facility ch.	No	No	Yes	Yes	Yes
Municipality ch.	No	No	No	Yes	No
Municipality FE	No	No	No	No	Yes
N	103	95	95	86	87
R^2	.06	.33	.35	.45	.79

Robust standard errors clustered on the facility level in parentheses. One asterisk denotes 10 percent significance level, two asterisks 5 percent significance level and three asterisks 1 percent significance level in a one-sided test, except Nonprofit which refers to a two-sided test. Coefficients for expected duration of treatment multiplied ny 100. The interaction term between private ownership and planned duration of treatment is normalized around the mean planned duration of treatment in private facilities.

Table B12. Troublesome vs. non-troublesome teenagers

%	Public		Private	
	Tr.	Non-tr.	Tr.	Non-tr.
Psychological problems	20.7	16.3	27.4	28.0
Addiction	37.9	22.8	51.2	34.1
Investigated at §12-home	10.3	4.1	17.1	4.9
Non-voluntary placement	29.3	19.5	48.8	22.2
Criminal behavior	44.8	28.5	58.3	34.1
Placed in care because of own behavior	67.2	47.2	70.2	67.1
Previous experience of youth care	57.8	17.1	76.4	21.1
Previously in youth- or foster care	51.7	10.8	68.7	24.4
Problems at home during childhood	58.6	49.6	69.0	52.4

Table B13. Breakdowns not on the facility's initiative

	Treatment breakdown				
	(1) OLS	(2) OLS	(3) OLS	(4) OLS	(5) OLS
Constant	.114***	−.006	.033	−.207	−0.181
	(.047)	(.096)	(.101)	(.372)	(0.311)
Private	.250***	.184**	.191**	.182*	0.198
	(.071)	(.083)	(.090)	(.116)	(0.183)
Nonprofit	−.242***	−.194***	−.179**	−.230***	−0.311**
	(.068)	(.071)	(.072)	(.085)	(0.156)
County	.052	.025	.037	−.015	−0.049
	(.059)	(.068)	(.069)	(.107)	(0.171)
Private*Violence		−.264**	−.247*	−.269**	−0.443**
		(.154)	(.160)	(.160)	(0.203)
Private*Pr. break		.117	.083	.041	0.094
		(.125)	(.132)	(.150)	(0.229)
Teenager ch.	No	Yes	Yes	Yes	Yes
Facility ch.	No	No	Yes	Yes	Yes
Municipality ch.	No	No	No	Yes	No
Municipality FE	No	No	No	No	Yes
N	288	274	267	245	249
R^2	.06	.23	.23	.27	0.62

The standard errors within parentheses have been corrected for clustering at the facility level and heteroskedasticity. One asterisk denotes 10 percent significance level, two asterisks 5 percent significance level and three asterisks 1 percent significance level in a one-sided test, except for Nonprofit and CAB which refers to a two-sided test.

TABLE B14. Additional control variables

	Duration (months)			
	(1) OLS	(2) OLS	(3) OLS	(4) OLS
Constant	3.872	9.854	17.704	18.598**
	(11.198)	(6.292)	(12.087)	(7.429)
Private	12.581***	11.962*	14.355***	14.000
	(3.716)	(6.945)	(3.553)	(8.630)
Nonprofit	−3.672	−0.344	−4.398	−1.998
	(3.335)	(4.610)	(3.449)	(4.721)
County	0.953	−0.424	2.157	1.592
	(2.626)	(5.573)	(2.937)	(7.741)
Personnel density	2.239	0.805		
	(1.452)	(1.692)		
Breakdown	−8.132***	−9.856***	−7.578***	−9.135***
	(1.771)	(2.673)	(1.961)	(2.739)
Cost (in 1000 SEK)			−0.066	−0.101
			(0.058)	(0.078)
Teenager charact.	Yes	Yes	Yes	Yes
Facility charact.	Yes	Yes	Yes	Yes
Municipality charact.	Yes	No	Yes	No
Municipality FE	No	Yes	No	Yes
Full set of treatment options	Yes	Yes	No	No
Observations	277	282	256	261
R-squared	0.42	0.69	0.40	0.70

Vector of teenager characteristics includes interaction effects between private ownership and troublesome teenagers. The standard errors within parentheses have been corrected for clustering at the facility level and heteroskedasticity. One asterisk denotes 10 percent significance level, two asterisks 5 percent significance level and three asterisks 1 percent significance level in a two-sided test.

Table B15. Excess duration of treatment

Variable	Duration (months)						
	Original data				Imputed values		
	(1) OLS	(2) OLS	(3) OLS	(4) OLS	(5) OLS	(6) OLS	(7) OLS
Constant	4.640**	4.951**	3.240	−18.783	2.299	3.186	8.372
	(2.026)	(2.091)	(5.975)	(19.197)	(2.246)	(2.168)	(10.155)
Private	8.272**	8.983**	9.466*	−0.985	11.975***	13.822***	14.262***
	(3.661)	(3.627)	(4.944)	(6.014)	(2.216)	(2.162)	(3.130)
Nonprofit	0.228	−0.324	1.652	3.781	−2.690	−3.764*	−4.833*
	(3.582)	(3.492)	(4.563)	(5.493)	(2.175)	(2.104)	(2.478)
County	−0.529	0.205	2.185	−4.889	1.454	2.124	1.800
	(1.908)	(2.035)	(2.347)	(4.914)	(2.149)	(2.073)	(2.794)
Breakdown		−5.103*	−5.998**	−6.855**		−7.708***	−7.488***
		(2.721)	(2.953)	(2.976)		(1.466)	(1.716)
Planned dur.	0.516***	0.552***	0.420***	0.366***	.546***	.589***	.371***
	(0.118)	(0.115)	(0.105)	(0.103)	(.104)	(.101)	(.108)
Teenager ch.	No	No	Yes	Yes	No	No	Yes
Facility ch.	No	No	Yes	Yes	No	No	Yes
Munic. ch.	No	No	No	Yes	No	No	Yes
Munic. FE	No	No	No	No	No	No	No
$p: \widehat{\beta}_2 - \widehat{\beta}_5$					.00	.00	.00
N	103	103	95	86	341	341	284
R^2	0.36	0.39	0.59	0.65	.21	.27	.42

Vector of teenager characteristics includes interaction effects between private ownership and troublesome teenagers. The standard errors within parentheses have been corrected for clustering at the facility level and heteroskedasticity for (1) to (4), but only not clustered for (5) to (8). One asterisk denotes 10 percent significance level, two asterisks 5 percent significance level and three asterisks 1 percent significance level in a two-sided test.

Table B16. PT outcomes I, teenagers with one placement

	Social assistance				Education			
	(1) OLS	(2) OLS	(3) OLS	(4) OLS	(5) OLS	(6) OLS	(7) OLS	(8) OLS
Constant	.353***	.264*	−.319	−.165	.676***	.800***	1.114**	1.102**
	(.072)	(.140)	(.540)	(.513)	(.080)	(.177)	(.552)	(0.539)
Private	−.119	−.214*	−.146	−.107	−.005	−.159	−.125	−0.447
	(.089)	(.111)	(.159)	(.287)	(.100)	(.139)	(.147)	(0.279)
Nonprofit	.073	.043	.054	.134	−.005	−.059	−.050	0.320
	(.098)	(.107)	(.119)	(.138)	(.098)	(.106)	(.114)	(0.199)
County		−.171	−.154	−.040	−.049	−.138	−.102	−0.249
	()	(.105)	(.152)	(.275)	(.094)	(.114)	(.127)	(0.250)
Private*Violence		.011	−.036	−.192		.070	.090	.208
		(.180)	(.163)	(.227)		(.171)	(.192)	(0.334)
Private*Pr. break		.054	.076	−.023		−.190	−.151	.372
		(.180)	(.192)	(.383)		(.143)	(.157)	(0.306)
Teenager ch.	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Facility ch.	No	No	Yes	Yes	No	No	Yes	Yes
Municipality ch.	No	No	Yes	No	No	No	Yes	No
Municipality FE	No	No	No	Yes	No	No	No	Yes
N	224	195	191	195	223	194	190	194
R^2	.01	.17	.23	0.66	.00	.16	.18	0.62

Robust standard errors clustered on the facility level in parentheses. One asterisk denotes 10 percent significance level, two asterisks 5 percent significance level and three asterisks 1 percent significance level in a two-sided test.

Table B17. PT outcomes II, teenagers with one placement

	Convictions				Imprisonment			
	(1) OLS	(2) OLS	(3) OLS	(4) OLS	(5)	(6)	(7)	(8)
Constant	.471***	.296	.195	.263	.118**	.030	−.753	−.132
	(.073)	(.138)	(.474)	(.416)	(.047)	(.136)	(.503)	(.427)
Private	.045	.075	.167	−.038	.054	.022	−.018	.033
	(.098)	(.108)	(.143)	(.274)	(.069)	(.108)	(.123)	(.202)
Nonprofit	.049	.044	.051	−.041	.085	.087	.068	.109
	(.116)	(.113)	(.117)	(.229)	(.089)	(.102)	(.106)	(.202)
County	.024	.009	.109	−.246	.078	.041	−.005	−.116
	(.095)	(.080)	(.129)	(.248)	(.068)	(.090)	(.113)	(.208)
Private*Violence		−.267**	−.214*	−.351*		−.340**	−.308**	−.484**
		(.159)	(.165)	(.201)		(.163)	(.166)	(.238)
Private*Pr. break		−.347**	−.364**	−.407		.007	.076	−.028
		(.196)	(.195)	(.307)		(.144)	(.138)	(.315)
Teenager ch.	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Facility ch.	No	No	Yes	Yes	No	No	Yes	Yes
Municipality ch.	No	No	Yes	No	No	No	Yes	No
Municipality FE	No	No	No	Yes	No	No	No	Yes
N	224	195	191	195	224	195	191	195
R^2	.00	.32	.35	.72	.01	.31	.37	.69

Robust standard errors clustered on the facility level in parentheses. One asterisk denotes 10 percent significance level, two asterisks 5 percent significance level and three asterisks 1 percent significance level in a two-sided test, except for the interaction terms which refer to a one-sided test.

Table B18. PT outcomes. III, one placement

	Mental health			
	(1) OLS	(2) OLS	(3) OLS	(4) OLS
Constant	.176**	.088	.313	0.593
	(.087)	(.137)	(.571)	(0.399)
Private	.042	.079	−.106	−0.170
	(.101)	(.116)	(.177)	(0.225)
Nonprofit	.012	−.028	−.092	−0.101
	(.080)	(.111)	(.109)	(0.194)
County	.088	.039	−.082	−0.279
	(.098)	(.101)	(.156)	(0.196)
Private*Violence		−.144	−.069	0.054
		(.201)	(.195)	(0.265)
Private*Pr. break		−.104	−.068	−0.017
		(.154)	(.167)	(0.333)
Teenager ch.	No	Yes	Yes	Yes
Facility ch.	No	No	Yes	Yes
Municipality ch.	No	No	Yes	No
Municipality FE	No	No	No	Yes
N	224	195	191	195
R	.01	.13	.21	.66

Robust standard errors clustered on the facility level in parentheses. One asterisk denotes 10 percent significance level, two asterisks 5 percent significance level and three asterisks 1 percent significance level in a two-sided test.

TABLE B19. Post-treatment outcomes, troublesome teenagers

	Convictions				Imprisonment			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Constant				1.483***				0.222
				(0.337)				(0.335)
Private	−0.340**	−0.398***	−0.152	−0.470	−0.087	−0.035	−0.348*	−0.220
	(0.170)	(0.145)	(0.229)	(0.322)	(0.172)	(0.076)	(0.209)	(0.322)
Nonprofit	−0.029	−0.124	0.039	−0.088	0.135	0.104	0.346*	0.201
	(0.128)	(0.164)	(0.128)	(0.396)	(0.154)	(0.113)	(0.196)	(0.437)
County	−0.220	−0.332	−0.004	−0.181	0.091	0.059	−0.176	−0.048
	(0.213)	(0.213)	(0.233)	(0.294)	(0.183)	(0.097)	(0.195)	(0.332)
Teenager ch.	No	Yes	No	No	No	Yes	No	No
Facility ch.	No	No	Yes	Yes	No	No	Yes	Yes
Municipality ch.	No	No	Yes	No	No	No	Yes	No
Municipality FE	No	No	No	Yes	No	No	No	Yes
N	96	84	79	83	96	86	79	83
R^2				0.68				0.65

Robust standard errors clustered on the facility level in parentheses. One asterisk denotes 10 percent significance level, two asterisks 5 percent significance level and three asterisks 1 percent significance level in a two-sided test.

TABLE B20. FACILITY INITIATIVE TO BREAKDOWN

Variable	(1) OLS	(2) OLS
Private	.122**	.104
	(.057)	(.084)
Nonprofit	.041	.106
	(.043)	(.090)
County facility	.043	.074
	(.045)	(.082)
Troublesome	.275***	.244***
	(.065)	(.081)
Private*Troublesome	−.237**	−.220**
	(.092)	(.105)
Full set of control variables $(\mathbf{X}, \mathbf{Y}, \mathbf{Z})$	No	Yes
N	329	284
Number of clusters	154	134
R^2	.08	.20

The standard errors within parentheses have been corrected for clustering at the facility level and heteroskedasticity. Two asterisks denotes 5 percent significance level and three asterisks 1 percent significance level in a two-sided test.